

Dirty tricks hit science centre

by Kevin Cahill
THE International Institute for Applied Systems Analysis, the only body devoted to the employment of the techniques of systems analysis to global problems, is coming under increasing attack.

Peter Cooper, the executive responsible for IIASA's affairs at the Royal Society in London, said there was a tremendous smear campaign going on, and he linked the attack with the US Central Intelligence Agency.

Cooper referred to a highly questionable report in an American magazine called *Parade*, which alleged that Russian members of the IIASA staff had used IIASA computer facilities to break into a UK Defence Ministry Cray 1.

The *Parade* article, allegedly based on CIA technical studies, claimed that Soviet experts, working covertly from a private research institute near Vienna (i.e. IIASA), were able to link their computers to one of the world's most advanced computers — the

US-built Cray 1 at the University of Reading in England — and use it to make complex calculations for nuclear weapons design.

The Soviets lack such a computer, and Cray 1 contains highly classified US defence data, according to *Parade*.

Earlier this year the CIA supplied the external affairs commission of the US National Academy of Science, the US member of IIASA, with a report into security at the international agency.

This classified report was later referred to in the NAS council resolution but the council nevertheless recommended that NAS continue as a member of IIASA.

However, the US government turned down the NAS proposal, and on November 17 it was announced that NAS was withdrawing, along with the Royal Society, from membership of IIASA.

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by John Riley
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Some information is available now, and the cash will reach all areas of further education. About £10 million will go to universities to cover recruitment of additional young researchers and lecturers, and to fund new courses in information technology from autumn 1983.

Another £2 million has been allocated for expanding courses in advanced further education.

In addition, there will be £2 million to support information technology courses in non-advanced further education.

THE world's biggest computer manufacturer is poised to make a major change to its approach to software. For the rumours are that IBM has pens and word processors poised to do a third party licence deal with as yet unnamed software houses. This is a major departure for the company as it has always insisted that it knows best what should run on its mainframe machines.

People in the know are looking at Management Science America, the US's biggest commercial software company because it pulled off the deal to provide software for the IBM personal computer through its subsidiary Fasttrack.

IN A world of staggering claims, here is one from David James, inventor of The Last One, that takes some licking. He claims to have found a simple mathematical formula for compressing 125 Gbytes of information into just 2.5 Kbytes. And of this, only 1/4 Kbyte will be used for actual storage — the rest will hold details of the encoding process. James says he is trying to sell copyright of the idea, called Hyperspace, to big US companies like IBM. Watch this space.

THE UK government computer procurement department plans to increase the number of approved micro suppliers tenfold and let the foreign hordes in. The General Services Administration, responsible for the acquisition of all non-military computers for government use, currently recommends just four manufacturers, Apple, Hewlett-Packard, Osborne, and Xerox. The GSA plans to seek bids for 40 by the end of the year.

The scheme will mean that foreign manufacturers will be able to compete with indigenous firms on the same basis as US companies. But

Scicon and Thorn-EMI hit the services big time

by our Parliamentary Correspondent

THE Welsh Office is to expand the computer-based information service called Indis which the Mid-Glamorgan County Council has set up to enable people to identify possible markets for product sources.

Nicholas Edwards, Secretary of State for Wales, has reported that he has found a basic need in Wales to provide companies with information about markets or commercial service sources available both in their own locality and elsewhere.

Scicon International is now, according to a spokesman, the UK's largest computing services company and the second largest in Europe and tenth in the world.

And Thorn-EMI has constructed a £55 million a year information technology division by combining the Datavision bureau and Software Sciences, both acquired from BOC in April, with Thorn EMI Datatech, which makes tape drives and modems.

Colin Southgate, Software Sciences' founder, is the head of the new division. He said: "I will be co-ordinating information technology work across the engineering group. Information technology accounts for about £100 million of the group's £607 million turnover if other activities such as micro distribution are included.

"And we do £14 million worth of business in defence systems. There are opportunities for collaboration across division boundaries.

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ComputerWeekly

Thursday, December 2, 1982 Number 838 35p

Japan chip imports leap in US

by Kevan Pearson

US imports of Japanese semiconductors doubled in the first nine months of 1982 to hit a new all-time high of \$346 million, according to Department of Commerce figures.

And the bad news for the US could get worse, since two of Japan's largest chip makers are planning massive new production for early 1983.

The import figure for the three-quarter stage exceeded the US Semiconductor Industry Association's forecast of Japanese imports for the whole of 1982. It also caused the US-Japan trade deficit in integrated circuits to jump seven-fold to \$228 million, compared with only \$36 million a year ago.

US chip imports to Japan are by 38.5% to \$82.1 million at the three-quarter stage, compared with \$59.3 in 1981.

Tony Pine, a consultant with the Luton-based Mackintosh Consultants, says that in the first six months of 1982 Japanese exports took about 70% of the 64K RAM market, and there is little to suggest that this has changed.

However, the overall picture is

the US is confused, since the IBM and AT&T's Western Electric have massive chip production facilities, and IBM has just licensed Intel's RAM production process.

In Japan, both Fujitsu and Toshiba have announced plans to significantly increase production of 64K devices. Fujitsu, the second largest producer behind Nippon Electric (NEC), will increase production by 36% to three million devices a month by next March.

And Toshiba is planning a 15% jump in production to 1.5 million chips a month.

Companies will also exchange technical information in advance.

Such information exchange will allow quicker release of Cobol compilers to run on Intel's new chips. A version to run on the 32-bit iAPX 386 can be expected soon after the chip appears from Intel.

There have been links between the two companies in the past — for example Micro Focus was the first independent supplier in Intel's Vendor Supplied Product Programme on 68000-based micro rudo-

ries.

The Intel deal makes the software house the major Cobol supplier for its line of 16- and 32-bit microprocessors. Micro Focus has also taken the veil off a go-for-the-native code generators for Level II Cobol applications and its implementation of the same language on 68000-based micro rudo-

ries under Unix.

The Intel deal covers Level II Cobol, the visual programming tool Animator, and Forms-2, which will be available to run under Xenix — Microsoft's Unix implementation — and Intel's RMX-16 operating system. The Micro Focus products will also run on local development systems.

The significance of this agreement is that it is a mutual commitment," says Micro Focus chairman Brian Reynolds. "It is indicative of the fact that the timely availability of software for new environments is seen by Intel as of strategic importance."

In the software business, the two native generators, for the 8086/88 and the 68000, allow faster running of application programs and, since the Cobol compiler is itself written in Cobol, faster compilation.

And speed is in everyone's mind

in the software business.

The deal will expand greatly

as the result of the company's withdrawal from the System X digital telephone network development team in October.

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Hollings agreed that the evidence could be interpreted as a "campaign".

In a diplomatically worded statement, Hollings added:

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The scheme will mean that foreign manufacturers will be able to compete with indigenous firms on the same basis as US companies. But the GSA is likely to run into opposition from Congress, which is reluctant to allow foreign hardware into government departments which, according to the GSA, account for 6% of the US civilian computer market.



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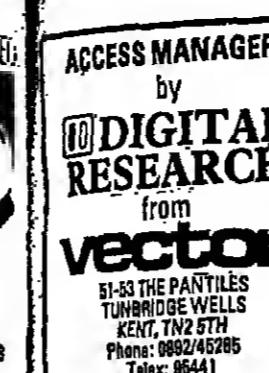
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REYNOLDS . . . a "mutual commitment" with chip-maker Intel.

Scicon and Thorn-EMI hit the services big time

by Robert Parry

UK software house Micro Focus this week pulled off a hat-trick of successes starting with a multi-million dollar deal with US microchip maker Intel.

However, the overall picture in the US is confused, since IBM and AT&T's Western Electric have massive microchip production facilities, while IBM has just licensed Intel's RAM production process.

In Japan, both Fujitsu and Te

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substantially increase production of 64K devices. Fujitsu, the second largest producer behind NEC

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output by 36% to three million

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Companies will also exchange technical information in advance.

Such information exchange will allow quicker release of Cobol compilers to run on Intel's new chips. A version in run on the 32-bit iAPX 386 can be expected soon after the chip appears from Intel.

There have been links between the two companies in the past — for example Micro Focus was the first independent supplier in Intel's Vendor Supplied Product Program.

The marketing link opens up

many opportunities for Micro Focus.

"The important thing is to get

software budgeted into projects

right from the start," says Peter Hewitt, Micro Focus' marketing manager.

The new offerings from Micro Focus extend the company's range in the market. The scope for 68000/Unix machines as powerful workstations is increasing rapidly, with people looking to them to develop programs which can then be sent, in Cobol code, to run on mainframes.

And speed is in everyone's mind

in the software business. The two

new generators, for the 8086/88

and the 80000, allow faster

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The deal will expand greatly because Intel's effective sales force, trained in the Micro Focus products and will run them. The two

new environments in seen by Intel as of strategic importance."

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Voluntary redundancy has been offered to 400 engineers at Standard Telephones & Cables' North London and East Kilbride plants as a result of the company's withdrawal from the System X digital telephone network development team in October. The redundancies may become compulsory if not taken up by the mainframe of next year.

Shadow Industry Secretary Stan Orme said the Bill would have a "devastating effect on our most modern industries and services".

Next week too late — page 48.

BT sale

THE sale of British Telecom is at least 18 months away, Industry Secretary Patrick Jenkins said at the second reading of the Telecommunications Bill on Monday. "But I have already asked BT to start the necessary preparations," he added.

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Software File

Company News

Micro News

News Analysis

Platform, Profile

Downtime by Chad

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Leaders, Letters

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Thursday, December 2, 1982 Number 838 35p

PT7 cuts costs

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Computer Systems

■ Amdahl has won a major slice of the project to revamp Manchester University's regional computer centre.

The company is to supply a 470V/TA, with two 4705 communications controllers to front-end the main computer system.

The regional centre is a major

Control Data user, with two CDC 7600s and Cyber 170. The present front-end system is provided by ageing ICL 1900 series machines, which are nearing the end of their lives.

And in November 1983 the two CDC 7600s will be supplemented by a CDC Cyber 205 supercomputer.

Initially about 1/2 of ICL's research and development budget

ICL did not tender to provide the increased workload.

The new collaborative venture,

which now has ten projects in progress in higher educational establishments around the country, is funding research into new architecture and languages, specification and design methodology, expert systems, man-machine interfaces and distributed processing and networks.

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ICL did not tender to provide the increased workload.

The university said agreement had been reached, but made no further comment.

French Prime Minister criticises UK ties with Japanese companies

Britain cool to call for closer European links...

by Jack Gee and John Kavanagh

THE French government has criticised the UK's ties with Japanese companies and is to call for closer co-operation between European firms - to the extent of setting up joint subsidiaries to rationalise the production of computers and electronics.

But the co-operation proposals, due to be put to a European summit by French President Francois Mitterrand this Saturday, has had a mixed reception from companies on both sides of the Channel. The memory of Unidat - the disastrous joint subsidiary set up in the Seventies by the main computer

companies in France, Germany and the Netherlands - is apparently still fresh in the minds of industry leaders across Europe.

Speaking to the Franco-British Chamber of Commerce last week, the French Prime Minister, Pierre Mauroy, took the UK to task for allowing Japanese firms to invest £1,400 million in Britain compared with the £280 million which France had allowed.

He said the UK and France could move ahead together in robotics and data processing. "It is dangerous to press ahead with unco-ordinated industrial policies," Mauroy said.

Mauroy said his government

was to encourage smaller firms to invest in the UK and other European countries with a relaxing of foreign exchange controls. This would increase the chances for co-operation.

French observers believe France wants fully-fledged negotiations between EEC members on the reorganisation of companies on a European scale, with companies like ICL, Olivetti, Philips, Siemens and Thomson-CSF forming joint subsidiaries.

ICL agreed, again with a reference to the ill-fated Unidat. "Everyone would like co-operation but it must have a strong commercial foundation," said an ICL spokeswoman. "The multinationals are always looking for areas of joint development."

She added that ICL's French



MITTERAND . . . To call for closer links

'Computer could speed boundary changes'

by Philip Hunter
IT TOOK the Boundary Commission six years to complete a controversial shuffling of parliamentary constituencies. Computers had been used - it is not known for how long in the UK - nearly 20 years - the task may have been over in 15 months.

This claim was made last week at the hearing of the Boundary Commission's application for an injunction to stop the new constituency boundary proposals from being submitted to the House of Commons.

Labour fears it will be several months before the recommended changes are implemented.

The claim was based on work carried out at Sheffield University by Professor Ronald Johnson, a specialist in electoral geography. A computer system developed by his supervisor could have carried out the electoral redistribution with no more than 5% dispersion of the population of all 630 parliamentary constituencies.

At the hearing the judge, Robert Megarry, said he could not have had such facts could be fed into a computer, but he did not wish it could decide what was an appropriate disparity of voter representation.

He then hinted at current developments. "The way ahead is through collaborative research. The approval of the Council of Ministers is needed and 10 proposals are currently on the table. We hope to get an agreement to start next week in Copenhagen at the European Council. We can't be too ambitious at the beginning, and we must start our proposals on the move. It is not a member of the group.

Torch chairman, Martin Vileland-Boddy, believes that British micros are good enough to compete in a free market.

"The British computer industry has the very best in technology, expertise and management," he said. "I am disgusted that some of our competitors believe that the only way they can survive is by persecuting foreign products."

Fitzpatrick is convinced that the Japanese are seeking out a short of world domination. "From day one, Japanese products are priced not just to ensure domestic market dominance, but mastery of the global market," he said. "Estimates and targets for global market mastery are set years in advance of the marketing onslaught, with cold, almost scientific, precision. The victim countries are subjected to the treatment."

Torch also is concerned that import barriers in the UK would inevitably lead to overseas markets imposing restrictions to the detriment of British exports.

The Americans have an insatiable appetite for technology," said Fitzpatrick. "Who's coupled to the progressive and fast-sighted American venture capital community, this ensures that American com-



FITZPATRICK . . . Convinced of Japanese plans for world mastery.

Micro makers call for ban on imports

by Andrew Thomas

BRITISH micro manufacturers are calling for a 12 month embargo on imports of Japanese and US micros.

panies can enjoy extremely high production runs from day one, just to satisfy home demand."

But the UK industry is out fully behind the BMMG demands. Cambridge based Torch Computers, which exports over half its production, is opposed to the move. It is not a member of the group.

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Bail-out plan for Magnuson

by Howard Karten

MAGNUSON Computer Systems has gained a respite from its financial problems with a bail-out led by venture capitalist William Hambrecht, partner in California's venture capital firm Hambrecht and Quist.

A group led by Hambrecht and Quist has bought a \$21 million secured debt from the Bank of America for \$4.5 million. This leaves the Bank of America poorer by \$16.5 million - but presumably wiser - and takes some of the financial pressure off the troubled computer company.

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Sperry stems the UK slide

ORDERS of £10 million in the last two months are cited by Sperry Univac as proof that it has stemmed the slide in its UK business.

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PASCOE . . . "Better climate".

Metropolitan Police, Bass, National Bus, Jersey Industries, Infotrac, and Redditch Borough Council.

Last week's report indicated that the company's order bookings at the end of fiscal 1982 were less than 60% of the plan for the year, and that for the first six months of fiscal 1983 bookings were some £11 million against a full year plan of £56 million. The figures were based on the internal budgeting documents, which Pascoe says are not an accurate tally.

Pascoe said, "We are now experiencing a better business climate, and look forward to continued growth in the UK".

...but EEC chief wants technology collaboration at Community level

by John Riley

A CALL for collaboration in high technology at a European Community level rather than country by country.

The attitude of the EEC is that the new industries are important for the future and the problem is how best to exploit them. It has a £260 million market and should be able to emulate Japan and the US. The EEC programme (European Strategic Programme of Research in Information) is to develop an infrastructure for semiconductor chip manufacture as seen as an important watershed in European collaboration towards challenging Japanese and American dominance.

The present recession is not a temporary downturn in our economies. Let there be no mistake about it. We are in a period of fundamental transition. We cannot base our collective future - as we have in past - on the success of our heavy industries.

There is a desperate need to develop new industries in the service and high technology sectors.

competition, Thornc said, "We are falling behind not because we are not able, but because investment is needed".

He then hinted at current developments. "The way ahead is through collaborative research. The approval of the Council of Ministers is needed and 10 proposals are currently on the table. We hope to get an agreement to start next week in Copenhagen at the European Council. We can't be too ambitious at the beginning, and we must start our proposals on the move. It is not a member of the group.

There was no further elaboration about the nature of the ten proposals or of the nature of the agreement. An announcement is likely in the next few days.

Edinburgh gets two new info centres

by John Riley

TWO information centres have opened in Edinburgh this week to encourage closer links between Scotland's "Silicon Glen" and central lowlands area support micro/electronic-based industry - and other sectors of science and commerce.

They were set up at Edinburgh headquarters of integrated Micro Applications, a company established by the University of Edinburgh and Edinburgh University to encourage technology transfer.

The funding is from the MAP awareness scheme.

The first is a microelectronics centre which provides an information service and exhibition area for all aspects of microelectronics in the production environment. The exhibition contains a collection of a wide range of electronic hardware and printed circuit boards.

The other centre, the Microelectronics centre, is on the University of Edinburgh's campus, and it is planned to be opened in Scotland in the autumn. It will be a centre for the promotion of microelectronics and guidance to prospective new users of microelectronics in Edinburgh and East Scotland.

Occam's Razors have been revealed.

See leader, page 15

'Keep it simple' key to Inmos new language

by George Black

INMOS is marketing an evaluation kit for its new programming language, which is to be called Occam. The State-backed chip manufacturer announced its intention to go into software in September. Now plans for the new language have been revealed.

Inmos argues that this concept will be vital for the complex to multiprocessor systems of the fifth generation.

"If you are starting to write Unix today, you might decide that Occam was a better bet than C for the purpose," said Inmos' Peter Wilson.

The language is designed to speed up the writing of systems software. A £100 evaluation kit, including language and compiler manuals, installation instructions and example programs, will be available in January.

"Our main target area has been the universities, but of course we are hoping that it will become established in industry too," said Wilson. "Already there has been interest in the project from Japan, where there is heavy investment in fifth generation technology."

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EDITORIAL

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Ron Coates	

Labour pledges aid for computers

by Kevan Pearson

A FUTURE Labour government would increase its investment in the computer industry and press for closer links between industry and the universities, according to Geoffrey Robinson, Labour Party spokesman on science and technology.

Robinson says: "The government has ruined Britain's research base with its education cuts. The cuts are not working as they were meant to. Areas in which we should be investing, such as microelectronics, and hardware technology are being badly hit".

And Robinson is highly critical of the government's efforts in

turning existing research and development into industrial and commercial benefit. "The amount of effort going into transferring that technology into industry is pitiful compared to what our competitors are doing."

Robinson believes the government should be strengthening Britain's position in the international computer industry. Instead, he says it is weakening our industrial base. The UK computer industry should, like the French, be heading for independence of the rest of the world, instead we were "heading for total dependence".

A future Labour government, he says, would be committed to continued funding for both ICL and



ROBINSON . . . "Government has ruined research base".



WINN . . . Building up a database for analysis.

'Deck-top' system for the Americas Cup

by George Black

A "DECK-TOP" computer is coaching the British sailing team challenging for the 1983 Americas Cup in the Bahamas.

The ICL Perce, which is more used to being on decks than decks, is being used to monitor the sailing performance of the 11-man crew from a motorboat that travels alongside. It has had to survive high seas, with swells that cause the boat to roll through as much as 40 degrees.

At present the monitor is being put on the 1977 and 1980 challenger the Australia in an attempt to set up a standard for comparison. The British challenger Victory is under construction after a decision was taken in October to abandon the old Victory as too slow. The new boat should be ready by April and computer testing will go on up to the race in September.

Systems firm links DG, ICL

A NEW systems house set up by Lansing Bagwell, the multi-million pound forklift truck group, and consultancy Gresham Computer Services, aims to move into the Data General-ICL systems area.

The new company, called Lansing Gresham, has taken six months to get ready for launch and already has as many orders as it can handle, about £500,000 worth of business.

"We are looking to move into the business of linking Data General interactively with ICL mainframes," said managing director Steve Dowling.

Orders were expected in the region of £40,000 to £100,000 each and Dowling has set a target of at least £750,000 in the first year of trading. "We ought to double that

The syndicate's consultant Dr Graeme Winn, a statistician, said in Nassau this week: "We are still building up a database for analysis and there is a long way to go yet. But we can already see that the information will be a great help in developing a strategy."

The 43-foot motor boat receives data from the Australias by radio link. Wind speed and direction, boat speed and position, sea conditions and sail movements are all being monitored.

Data is stored on disc files. The Perce has been mounted in foam rubber within an aluminium box, itself cased in foam rubber. The US won the sailing trophy in 1971 and has never lost it since.

"We're using real time systems to look at the problem in a dynamic way and we're hopeful that the computer may help us to win the cup for Britain for the first time," said Winn.

in our second year," he said.

Technical director for the firm will be Steve Purchase, who said: "Gresham had a good record in software built up over ten years, but it was not very strong on the marketing side. We wanted to diversify and the Lansing Bagwell group should give us the facility to do so."

Lansing Gresham will set a fixed price for hardware, software and systems implementation. Purchase said: "We will be very pro-Cobol and all our work will be done in that language. But we don't reinvent the wheel. We will be mostly modifying existing packages and moving them up-market."

The company will have around 100 staff at its disposal.

Lords demand strict controls on cable TV

by our Parliamentary correspondent

THE House of Lords has strongly urged the government not to delay the introduction of cable television. But at the same time a number of peers have demanded strict controls to ensure that cable TV does not bring a substantial fall from the programme standards obligatory on the BBC and ITV companies.

In a debate on the Hunt report, Lord Orr-Ewing agreed that there had to be a cable authority with teeth, but the teeth must not destroy any organisation which transgressed.

Lord Elton, Under-Secretary of State, Home Office, was not in a position to announce the government's conclusions on the Hunt recommendations.

He said the government was still considering its whole future policy on cable TV including broadcasting standards and technological questions. It was intended to announce the broad policy by Christmas.

It seemed likely that cable TV would develop into an information lattice work for a variety of functions, some not yet perfected and some not yet invented.

Lord Ponsonby, Opposition

SALES BRIEF

Sperry beats IBM to car contract

A SPERRY Univac 11000 mainframe has knocked out IBM System 34 at BMW Aeronautics Leasing's headquarters in West Germany. The \$2.5m order includes 92 terminals. The computer will handle 1000 flights to the leasing of cars over a three or four years to BMW's Mobil Leasing's 30,000 customers.

He is critical of the Alvey Committee's response to the Japanese fifth generation computer project. Robinson says the report lacks coherence. "It stated the most obvious points about the British capability and government funding. The idea that we can develop a software industry without hardware is illusory. We have good software facilities in this country, but without hardware all we will lose even that."

Robinson believes the government should be strengthening Britain's position in the international computer industry. Instead, he says it is weakening our industrial base. The UK computer industry should, like the French, be heading for independence of the rest of the world, instead we were "heading for total dependence".

A future Labour government, he says, would be committed to continued funding for both ICL and

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French set up a databank on 100,000 wanted terrorists

Secret service told: Switch kit

by Jack Gee

THE French government has ordered the national intelligence service, the Direction Générale de la Sécurité Extérieure (DGSE) to replace foreign equipment by French-made computers at a time when a databank of 100,000 wanted terrorists is being set up in France.

Funds for purchase of the CII-Honeywell Bull computers will come from the DGSE's 1983 budget of £30 million, which shows a 9.6% increase over this year.

The increase will be higher because Prime Minister Pierre Mauroy is making extra cash available to the DGSE from the government's secret funds.

The French intelligence service has been using rented foreign equipment - believed to include powerful IBM machines - for stocking and transmitting information since 1974.

French officials say they are be-

ing careful to ensure that foreign agents cannot acquire the electronic keys to the network and access national defence and security secrets.

Many of the DGSE's files are still manual and a major task of feeding them into new databanks now lies ahead.

Defence Minister Charles Hernu has told the DGSE that, if the funds allocated in the 1983 national budget and from the Prime Minister's treasure chest are not sufficient, a budget "bonus" will be made available later in the financial year to speed the creation of an efficient computer network.

President Mitterrand announced the creation of the national databank of terrorists in August, immediately after a massacre by Arab terrorists in a Jewish restaurant in Paris where six people died.

French officials say they are be-



PREMIER MAUROY... Extra cash from secret funds.

Govt funds directory of courses for employees

by John Riley

AN electronic directory to help employers find courses for their employees is the latest project to be £10 million Department of Education and Science Pickup programme.

The directory will be developed by Guilford Educational Services over two years at a cost of £225,000. It will record up to 20,000 further education courses and is expected to run on a self-supporting basis by September 1984.

The Pickup programme was set up last May to stimulate the development of mid-career vocational courses. Other grants include about 20 two-year projects funded by the IBM Personal Computer, for which it was originally designed, to the latest Japanese micro, Hitachi's MBI6000.

According to Bill Webster, president of Star, the company plans to increase its sales of micro software to \$5 million in 1983, with the aid of CDC's managerial and financial strength. CDC has

placed a \$250,000 order for Star software, and is considering marketing it through its 100 business centres in the US.

As part of the deal several CDC executives have taken up posts on Star's board of directors. Jim Hart, a former CDC marketing executive, becomes vice-president of Star. Bob Bender, president of Control Data Capital, also has a directorship.

In terms of operating software the

major change is that a "significant" number of OS/VS1 sites have switched to following IBM's decision in the latter part of 1980 that OS/VS1 was no longer a "front-line" operating system.

A sample of 200 sites in the UK and Europe showed that 54% of sites now have multiple CPUs, and that these sites are 11 times more likely to use plug-compatible kit than single CPU sites.

Large and medium-sized sites (IBM 4341 upwards) are more likely to use PCP kit than the users of smaller machines (4331, 4321 and the smaller System 370 series machines).

At sites with four CPUs 35% of those have PCP mainframes.

Xephon concludes: "Few users are prepared to put all their eggs in the PCP basket, but a number may be prepared to make a saving on a second machine to run alongside their IBM machine." The proportion of single CPU sites having a plug compatible machine is only 7%.

In terms of operating software the

Big IBM users favour PCMs

by Kevan Pearson

BIG IBM users are the most likely to make the move to plug-compatible machines, according to the latest Xephon consultancy survey.

A sample of 200 sites in the UK and Europe showed that 54% of sites now have multiple CPUs, and that these sites are 11 times more likely to use plug-compatible kit than single

thinking of moving into the big processor league and are using VM as a stepping stone.

Xephon explains: "It seems likely that a conversion (from DOS to MVS) will become necessary at some stage since it appears (a) that IBM has no plans to enhance DOS further and (b) DOS as it is now will not be powerful enough to drive the next generation of hardware (the 4300 replacement)."

With regard to MVS, the survey shows substantial caution among users on the move to MVS/Extended Architecture (MVS/XA), which IBM announced in 1981 and which is being tested at the moment, prior to commercial release in the first quarter of 1983.

The report states: "A significant number of sites run more than one operating system. In most cases the 'extra' operating system is VM; there is, nonetheless, a significant overlap between VSI and MVS."

The report finds this surprising because "DOS and MVS are at opposite ends of the power spectrum with completely incompatible JCLs (Job Control Languages)."

A possible reason for this and for the increasing penetration of VM is that many medium scale users are



WEBSTER... "\$5 million micro software sales in 1983".

Patent law changes may threaten IT investment

by George Black

THE FLOW of investment into new technology could be halted, if changes to international patent laws are forced through by the United Nations, according to a pamphlet from the ginger group Alms of Industry.

Kenneth Daly, writer of the pamphlet, told Computer Weekly: "A lot of the good work done by Information Technology Year could be undone. We see this as a very serious threat."

The developing nations lobby, the Group of 77, is arguing the case at a current Geneva conference, for sweeping changes to patent regulations, says Alms of Industry. One proposal is that 30 months after a licence was granted to a multinational corporation the licence should also be granted to an individual or firm in a developing country.

The developing country could force this to happen if it proved that the patent owner had failed to manufacture the invention locally, according to the pamphlet.

"Large amounts of money have to go in research and development for any new product and companies will only invest if they can be guaranteed a reasonable return," said Daly. "Patent rights are therefore absolutely fundamental."

Chairman Tony Martinez established the company to make and sell colour VDUs at the end of 1979, and at once picked up a £45,000 Department of Industry development grant.

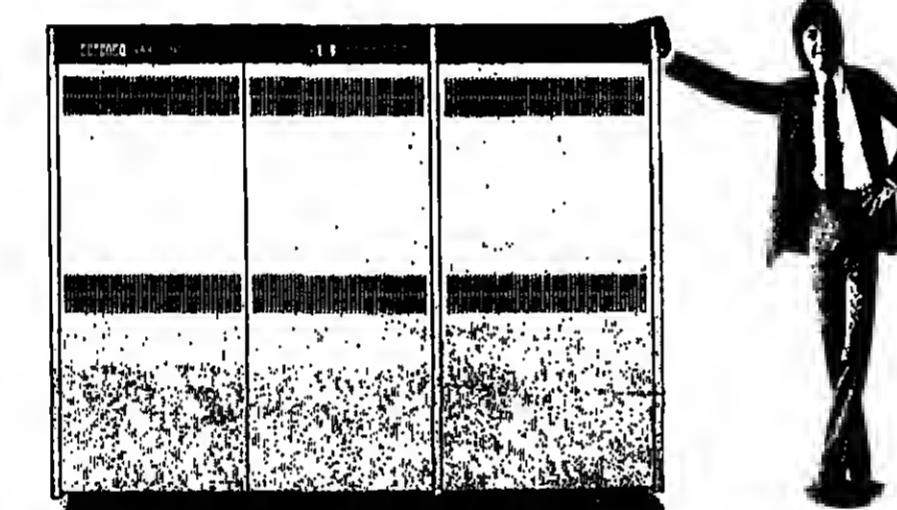
The company now sells colour units of three different sizes and resolutions for personal computers, terminals and space invaders machines.

Recently it launched its first subsidiary, Micrographics, to make and market a new high resolution graphics colour display unit.

Martinez says the award money will go towards establishing a common ownership scheme for staff. Earlier this year Microvitek won £25,000 for coming fourth in a similar award scheme organised by the merchant bankers Hugh Samuel. Part of this money was spent on improving the staff canteen.

Martinez gives his staff credit for the "success". "We have a very good product and an excellent team," he says.

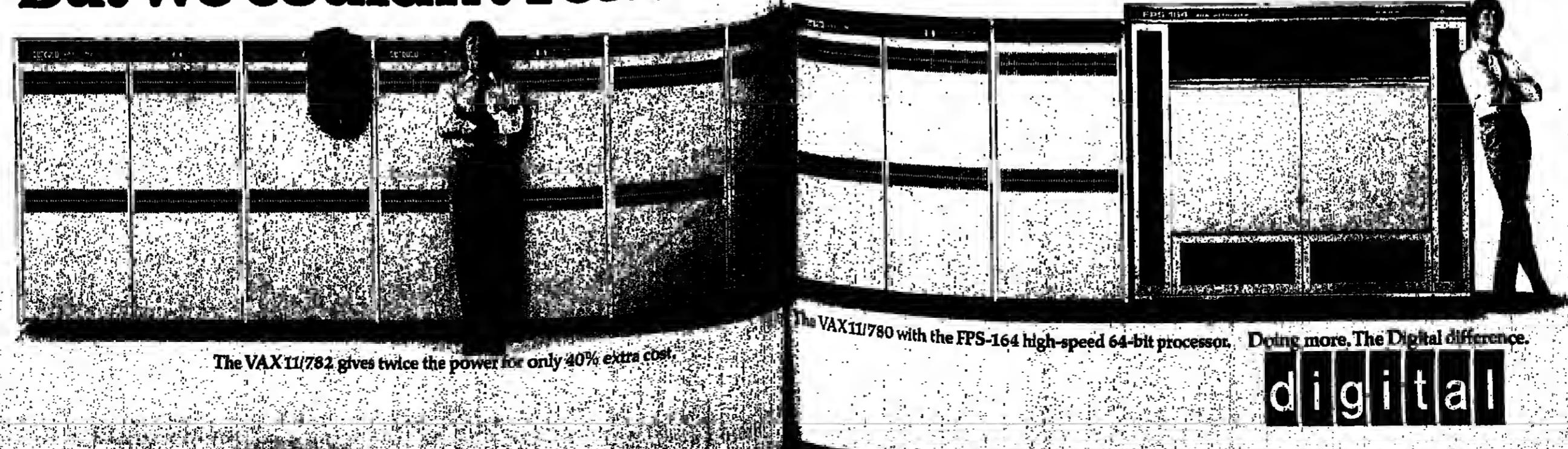
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Digital

Vax user gives Unix based package a good performance report

by George Black

ONE OF the first British commercial companies to use a Unix-based package is the Vax reports that it has proved a tremendous help".

Research Services Ltd of London has installed Quantum, an ICP Million Dollar Award-winner, on its new DEC VAX 11/750.

RSL's Roger Calverley said: "There are still some deficiencies, but we are well on the way to a quicker and more flexible system."

The Quantum package, from Quantime, is used to edit data gathered by personal interviews and prepare tables based on calculations from that data. RSL previously used a bureau service which gave only a twice-daily turnaround on a batch basis. Now information can be handled interactively on the super-min.

RSL is considering building on the package to bring in Quancept, a telephone interviewing aid. Interviewers wear headphones while they talk and the program on the screen guides them through the questionnaire.

"It has the advantage that you don't have to send an interviewer into what could be a dangerous area to get facts or opinions. It's already very popular as an idea in the US for that reason and because

the Americans are far more phone-oriented," said Calverley.

National Opinion Polls reports that Quancept is going very well for its phone interviewing, run on a Prime 850. NOP is the first UK market research agency to install Quancept for computer-assisted telephone interviewing, or CATI.

"It has been very successful and we're pleased with it," said NOP's Paul Harris, after the system had gone through its first month.

One problem is that only 75% to 80% of British homes have phones, so NOP has to be careful that this does not creep into sampling. But as phone subscriptions rise to American levels, the chance of bias is decreasing.

Quantime was set up as a software house in 1978, but the Quantime program had been developed by director Ed Rosa before then. Thirty market-research companies around the world have run it on Prime machinery. When Quantime decided to rewrite it for the DEC equipment, it had to choose between Unix and VMS operating systems. Tens of thousands of lines of code were involved.

"It took three months to rewrite the whole package for Unix," said John Sangster. "If we hadn't used Unix, I believe we would still have been doing it now."

Kason quits as president of UCC

by George Black

THE man Profiled in Computer Weekly last week, John Kason, president and chairman of UCC, has resigned for personal reasons.

The board of the American software house has elected J. Allen Huff as president and chief operating officer of the company following Kason's resignation.

Huff has been employed by Wyly, the parent corporation, since 1968, most recently as senior vice-president and general manager of UCC's software group.

Kason, 50, rose to the top of the \$66 million revenue software house in 1979. He had become director of its British subsidiary in 1968.

When interviewed by Computer Weekly he dismissed the previous



KASON... "Time and energy of an imminent retirement". However, with one home in Hampshire and another in Dallas, even the fittest of men - or women - can't keep up the routine of transatlantic communications and visiting UCC's various divisions.

CTL to sign five systems houses

by Ron Coates

COMPUTER TECHNOLOGY (CTL) is to pull in five systems houses by the end of the year to help sell its systems.

And the first to be signed up on CTL's new Marketline scheme, Sunbury-based Systemsolve, is on the acquisition trail. The systems house has already taken a £250,000 order from air freight carrier Trans Global Air.

Ken Ramsey, CTL UK systems manager, said: "Marketline is not an OEM agreement but a trading agreement for areas of mutual interest. We will be offering introductory terms which will give an aggressive discount for the first six months and give the systems houses experience with CTL."

After that time Marketline systems houses will get a performance based discount of 25 to 35%. And CTL managing director Bob Finch said he would have another four systems houses signed up for

the agreement by the end of the year.

John Stanley, Systemsolve managing director, said: "CTL is the first manufacturer that has got it right from day one. They are very good to deal with."

And he said there would be no conflict with Systemsolve's other OEM partners. The company was the first to sign with ICL's Tradepoint scheme.

He said: "We are in the business of offering solutions. We will offer the best system that we can and I don't see a conflict."

"For high volume real time transactions that need instant backup, CTL's Momentum system would be indicated and for others ICL kit."

Ramsey said: "When a systems house is introduced to prospective business it can be sure that the lead is exclusive. Our sales force knows exactly who is experienced in which market sectors."

Stanley said: "CTL has got it right from day one."



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CII-HB claims world lead in 5 1/4in disc units

by Jack Gae

JACQUES STERN, chairman of CII-Honeywell Bull, said that the State-controlled French firm now led Europe in OEM peripherals when he presented its D520 5 1/4in compact disc unit, the world's first of this type, in Paris.

The unit incorporates one fixed 13 Mbyte disc and one removable cartridge of the same capacity. It will go on show at the Comdex exhibition of OEM products in Las Vegas this week.

The D520 has been designed and developed in France by CII-Honeywell Bull's subsidiary, Cynthia. It will be available in Britain and other markets from the middle of next year.

Cynthia's British sales are estimated at £2 million this year, double the 1981 figure. The firm's best customer in Britain is the Post Office which takes almost half of the French firm's deliveries.

Presenting the D520, Stern said: "Our investment in magnetic disc research is justified by the rapid growth of the OEM market that is generating a bigger share of revenue, while that of QDF is going down."

"No other European company can match us in OEM peripherals. The real competition is coming from the US and Japan."

CII-Honeywell Bull plans to capture about 15% of the world market for 5 1/4in discs by 1985 with sales of 50,000 D520 units annually.

The French firm claims that the D520's storage capacity of 16 Mbytes on two 13 Mbytes discs gives it the best size-capacity ratio available. In OEM quantities of 100 units it will be priced at about £1,000.

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COMPANY NEWS

MBS goes public on micro boom

THE boom in micros has persuaded Micro Business Systems of Etoo, Berks, to take the plunge and go public this week.

Based on a profit forecast of £750,000 pre-tax for the year ending December 31 1982, brokers Simon and Coates are offering the shares to the public at a placing price of 120p.

This puts a value on the five-year-old business of £8.1 million against a forecast turnover of £6.4 million for this year.

With sales of £455,000 at the end of 1979, the company has grown until in 1981 turnover reached £2.5 million. It was £2.6 million for the six months ended June 30, 1982.

According to joint managing director Mike Brooke, the main purpose of the flotation is to convert some of the company's indebtedness to directors and banks into equity (shares).

The placing prospectus, the do-

cument issued by the brokers when they float a company's shares, says that the growth of the MBS business to date has been financed by a combination of the major shareholders' funds, retained profits and third-party (bank) finance.

The total placing of 1.8 million shares is split between shares offered to raise money directly for MBS, and shares offered by the main shareholders.

MBS will receive £845,000 and the directors about £1.2 million before expenses and tax.

By the time the principal shareholders have settled the bank and other loans they used to set up MBS, no one is going to be a millionaire. And, at £115,000, the expense of going on the Unlisted Securities Market for MBS has been a good deal higher than the £50,000 paid by NMW recently.

According to the directors, the money raised, and the fact that the



BROOKE... Main purpose of the flotation is to convert debts to shares.

Picture is rosy at DPCE

AGGRESSIVE maintenance group DPCE, of Wokingham, has turned in some excellent results for 1981-82 and is making just the kind of noises those about to go public make.

Harvey Tordoff, the group's finance director, said turnover at the company rose 44% during the financial year to reach £3.6 million at year end on June 30, 1982.

DPCE has made investment of over £500,000 in expanding its markets and increasing its customer service organisation. The cash management has added £50,000 to profit from our £500,000 cash held on deposit, if it is to retain the

This kind of cash control is appreciated in the City and Tindall's stop-press forecast of turnover at just under £5 million for the year of 1982-83 will add to the likelihood of a market debut by the company.

During the year, DPCE picked up virtually all the maintenance work at the Post Office's Giro bank at Bootle in Lancashire.

The user. This is all part of what VisiCorp styles its BLU concept — Easy to Learn and Use.

"Every time we have a choice between putting more features in a program and making it easier to use, we go for the ease of use," says Jean-Claude Carreas, VisiCorp's European marketing manager. "Things must be understood by the user if they are to be successful."

As success is one thing that has not slipped by VisiCorp. Last year it multiplied 1980's \$1 million turnover to \$19 million, and Carreas expects this to be boosted to over \$40 million for 1982.

VisiWord will first be offered on the IBM Personal Computer — rapidly moving into the role of archetypal micro that Apple held in the eight-bit days — and will be shipped worldwide from the third week of December.

In the UK VisiCorp products are distributed by Rapid Ter-

minals, a division of Rapid Recall, to well over 500 dealers.

After the IBM Personal Computer, Carreas expects the DEC Professional to be the next machine the company will implement VisiWord on, perhaps then followed by Apples.

As with the rest of the Visi family, CP/M in its various guises is avoided.

But when CP/M is moved on to silicon — as semiconductor manufacturer Intel is already doing — this may well change, says Carreas.

If this does happen it should reduce the scope for look-alike products — VisiClones — particularly of VisiCalc that have emerged since its original success.

"We will always have competition," says Carreas. "We just have to capitalise on being first."

And being first has put VisiCalc on a quarter of the world's Apples.

Micro News is compiled by Robert Parry

Cray profits suffer from licence delay

CRAY Research, the Minneapolis manufacturer of high-speed vector computers, will not achieve its fourth quarter targets as the result of a failure to deliver two computers to France.

According to John Carlson, the Cray director of public affairs, the Cray's profits for the year will only be 10% up, against the predicted 80% to 90%.

The company is currently shipping Cray 1s at prices of between \$5 and \$11 million each, and the company had confidently predicted that it would ship 16 systems in 1982. The predictions mostly come from New York financial analysts, but are based on Cray's own estimates

of machines to be shipped. Cray's recent month figures showed profits of \$6.8 million against \$10.1 million for the same period of 1981.

Carlson said the government bureaucracy is getting slower and, Cray will now pursue its "alternative policy". This will involve converting one or more of the current lease sales to outright sales.

"This will not be a good, since we had shipped the machines, and our profit growth will only be about 10%", Carlson said.

UK peripherals imports are increasing

by John Aczel

BRITISH imports of computer peripheral equipment have remained at a high level with the trade deficit widening considerably in recent months.

Foreign deliveries are now taking an even larger share of the British market than before and are very competitively priced.

The growth in imports was predictable, especially as total demand in the British computer industry has been picking up recently. Activities in the computer sector have been quite buoyant, particularly for mini and micro equipment, and this has been reflected in increasing demand for all types of foreign products.

An additional factor has been the relatively high level of sterling against other foreign currencies, even though the pound has been declining in the last few months.

In many quarters, it is agreed that the pound is over-priced against other currencies, and this has meant that some importers have benefited in order to step up their sales to the British market.

The latest trade statistics refer to August, and, in that month, computer peripheral imports reached a record figure of £58 million. This

compared with £56.6 million in the previous month, while for the first eight months of the year, the cumulative figure has risen to over £440 million.

This increase in foreign deliveries has not been confined to value, but the volume of peripheral units has also gone up appreciably. In August they amounted to £31.4 million, which represented a drop of 16% compared to the previous month. For the first eight months of the year, British sales abroad amounted to about £270 million.

Most of these imports have been reasonably priced, with the cost of a unit averaging £670 at port of entry. If wholesale and retail margins are added on, the ultimate price would be much higher, but the overall price structure for imports has been very competitive, and, for some products, has been falling rapidly in recent months.

In some markets, British exporters had difficulty in maintaining their sales, and this was particularly the case in Western Europe. Exports to West Germany fell sharply and amounted to only £6.3 million in August. In addition, sales to Italy were considerably lower and fell below £3 million this fall may be only a temporary nature.

Sales to France continued to

grow and rose by 13% to £6 million, while those to the Netherlands were level-peaking at around £1 million.

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Textile design venture

by George Black

TWO university men have gone into business as computer experts in the textile trade, aided by the British Technology Group. They are John Carroll and Peter Grigg of Manchester University Institute of Science and Technology, UMIST, who have set up Textile Computer Systems with the aid of a £160,000 investment provided by BTG.

Computer designs used to be made by hand on graph paper and laboriously converted to cards or tape. Now microprocessor patterns to be built up and readjusted on colour monitors via a digitised table. The patterns are then converted automatically to control cards or tape.

Using microprocessor TGS aims to cut design times for textile patterns from between ten and 30 hours to about an hour or two.

TCS foresees a big market in US and in Europe, and a market turnover is aimed at £1.8 million.

The new machines use the same basic frame as the earlier products, as well as sharing the Multibus architecture and intelligent peripheral and I/O controller boards.

The difference comes with the main CPU board. As well as the 68000 processor instead of the Z8000, the board carries 4K of cache memory and 12K of fast static RAM. These allow the 68000 to run at 12.5 MHz with minimal wait states.

"With Unix, users are no longer restricted to one hardware supplier," says Bob Marsh, chairman of Plexus Computers. "It gives them a dimension of flexibility they never had before."

The effect of the super-fast hardware tailored to the Unix System III is to give performance comparable to a Vax-11/780 according to Plexus. "We see the P35 and P60 as second generation 68000 systems, offering dramatically better performance than any single processor design," says Marsh.

Part of this speed comes from off-loading the main CPU of tasks such as disk control and I/O handling.

These are looked after by controllers built around Z8000 16-bit processors developed for the earlier machines.

MICRO NEWS



Unix specialist joins the Motorola 68000 bandwagon

has various 32-bit internal features.)

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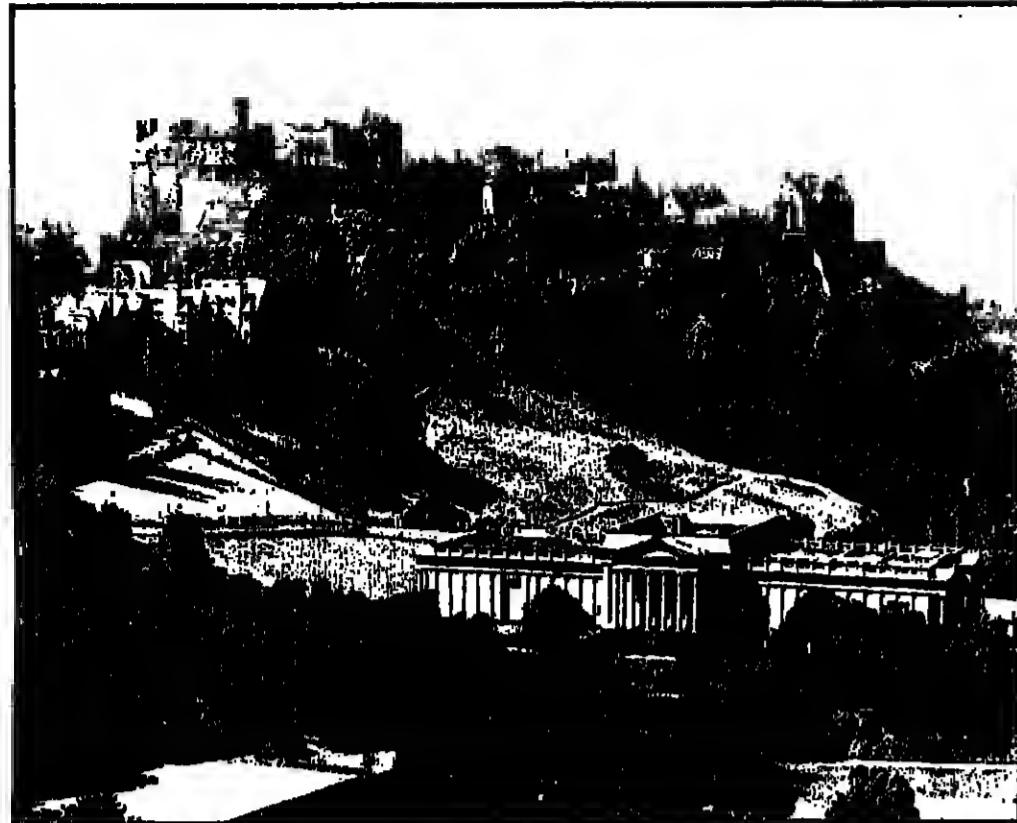
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NEWS ANALYSIS



Edinburgh University will be short of staff in the future, but Systems Designers is funding some research.



"The biggest task is to learn how to give things up," says a Cambridge man.

THE CUTBACKS being implemented throughout the university system are causing increasing problems for computer departments and hindering long-term research projects.

A brave face is being put over the underlying mood of pessimism, and the degree to which universities have been affected varies considerably. However, there are signs that at least some university computer departments are looking beyond their traditional sources of funding towards industry.

In these cases the cutbacks seem to be acting as a catalyst to make departments more willing to seek out collaborative projects with computer companies.

There have also been more links with universities initiated by the computer industry. An important reason for initiating or transferring research and development projects to universities and polytechnics, apart from reducing costs, is to take advantage of the accumulated expertise and research within them.

But these academic geese, which are still producing their golden eggs, are ailing. There is a feeling that industry backed by government must put a lot more in, with full consideration of the long term as well as shorter term applied projects. Sidney Michaelson, professor of computer science at Edinburgh University, sums up the situation from a university point of view: "We are using up seed corn without replacing it. We're going to be very short of people in the future. We are doing the best we can, but the government doesn't really support us as much as its fine words suggest it would be."

And this lack of support means that morale in the universities is declining, uncertain funding is hindering planning and long term research, the teaching and administrative burden is heavy, the number of computer users is increasing and university computer services are overloaded.

"The universities have tried to protect their academic computer departments," explains Michaelson, "but there is a shortage of cash, and an increase in users, and most computer departments have a high student/staff ratio. Some departments can't afford to pay the maintenance for weekend running of major machines."

The university computing services, which are closely related to the academic departments, are strained with staff freezes, and cutbacks in advisory services and other facilities.

One of the worst hit is Salford. Dr John Slater, director of Salford University Computing Services, says: "We have lost about seven operating staff, and there are six programming posts vacant now. We have no data preparation or reception staff. However, we are

Cuts force universities to link up with industry

As the financial squeeze hits higher education, academics are seeking new sources of finance in order to maintain standards, says John Riley

attempting to meet the demand in a more streamlined fashion."

Both Oxford and Cambridge University Computing Services are beginning to feel the pinch. Staffing is now frozen at Oxford, where the biggest effect of the cut is to limit the amount of advice available in the face of increasing numbers of users.

Cambridge is experiencing no cutbacks in service at present, but demand is expected to rise, and attention is being paid to the longer term problem of how best to change priorities with the changing technology. "The biggest task is to learn how to give things up and to find ways of re-using the effort," says a spokesman.

The main cause of the cutbacks in the universities has been a decrease in support for staffing, which is funded through the University Grants Committee (UGC). Three university computer centres, Manchester, London and the South West Universities Regional Computer Centre at Bath, have their staff funded through the Computer Board of the Department of Education and Science. These are protected from the major cuts applying elsewhere, but no fit is allowed to accumulate.

The Computer Board provides the funds for capital installation of new equipment for university departments (the 1982-3 budget for this is £12.3 million), and also supplies central support services for maintenance, and a limited number of special projects, usually involving funding a few staff at various institutions and mainly for networking support (the 1982-3 budget is £17.1 million).

There is a feeling in some universities that companies should be investing more in them, while there is a view from industry that universities should be working harder to interest commercial organisations in collaborative ventures.

The university view is expressed by Michaelson: "Several firms are becoming more forthcoming in terms of helping academics with grants, and there has been a change of attitude by companies. Companies are at last realising that they have to take advantage of universities if they are going to compete. Only in the last year are they

welcoming suggestions from universities that collaboration is beneficial."

An example of this is the recent funding by Systems Designers of a lectureship in artificial intelligence at Edinburgh which arose from the university's interest in knowledge-based systems.

Another perspective is provided by Digital Equipment, which has consistently backed research projects, particularly in the US.

David Skyrme, until recently DEC's head of European education marketing, comments: "Two or three years ago, 95% of our research was conducted in the US. However, we are now adapting our products more to local environments and have been looking more to supporting European-based research projects.

"We have found that European universities have come to us with well thought out and attractive proposals, while we have had to approach British universities. Britain has been slower to pick up overtures than Europe — perhaps British professors feel that they

would be more obligated than they need be. However, this situation is changing, and we find that one result of the cuts in the universities is that they are now more receptive to collaboration."

DEC has four major projects in hand, which will be published more fully in due course. DEC's budget for university collaboration is "from 1% to 5% of our R & D budget, which is 10% of the corporation's earnings," said Skyrme.

Smaller projects include involvement in micro development systems, with, for example, a project involving microprocessor design at Oxford University Computer Teaching Laboratories; another project involves computer-based training in accountancy at the University of East Anglia.

Turning to other manufacturers, ICL this year formalised its funding of university research by setting up a University Research Council and is contributing a small amount — 4% — of its annual R & D budget. ICL is not releasing details of the locations, sums involved or nature of research, but

there are already 10 significant collaborative ventures, of which seven or eight are in computing departments.

IBM is funding various projects at Oxford, Cambridge, Southampton and East Anglia, and has joint research programmes at Sheffield and Brompton Hospital. Without wishing to imply that the cuts in the universities have led to a change in IBM's attitude, a spokesman says that IBM is now taking a more positive view to providing money for specific projects rather than general funds.

Computer Analysts and Programmers, the software house, has a unique way of forming a bridge between its own and university/polytechnic research through its MARI organisation. This is the Microelectronic Applications Research Institute in Newcastle, which was set up jointly about three years ago by CAP, Newcastle University and Newcastle Polytechnic. Much of the institute's research is on Unix connection and fault tolerant software.

Another collaborative project is being conducted in the Department of Construction. CAP has a collaborative venture with a small commercial application for requests for collaborative and pure research," says Trice.

In addition to these initiatives from industry, some universities are very active in creating their own initiatives, particularly the universities hardest hit by the cuts. Examples are Salford University Computing Laboratory, which in June launched a campaign to market software and consultancy services in the UK and the US, and Bradford University which in July followed up the success of its independent Software Services with the launch of Technology Transfer Services to market programmes developed by the Postgraduate School of Studies in Industrial Technology.

These examples of collaboration between academic and commercial organisations point to the encouraging trend towards such links. Alan Benjamin is looking to the future comments: "If the above recommendations are adopted, there will be a call for qualified people to handle the programme. It can't be achieved without adequate resources. The whole thrust of IT Year seems to have been towards this, and I should expect that there will be more resources."



BENJAMIN ... industry has had to respond to the situation.

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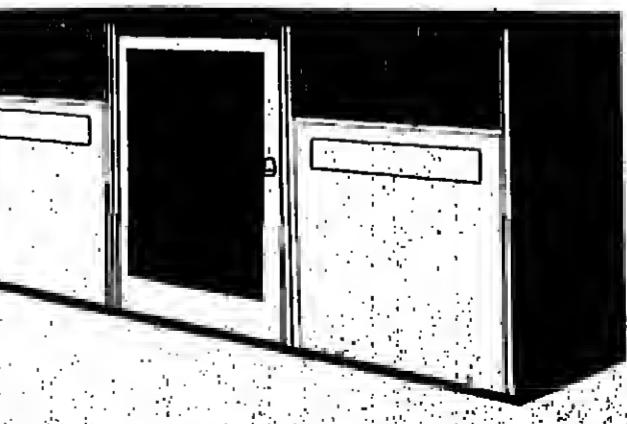
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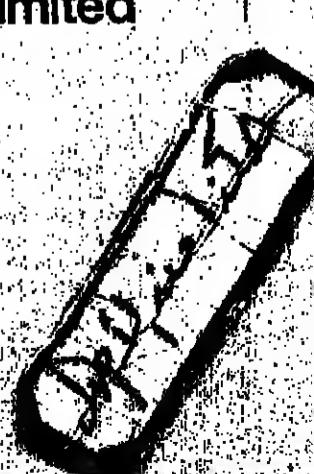
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PLATFORM

The author is senior consultant at the National Computing Centre

Look on validation like an MoT certificate for your car



ALTHOUGH compiler validation is a new concept in Britain it has been going on in the US for some years. Most manufacturers which market Cobol in this country have had their compiler validated by General Services Administration, a US Federal department, to conform with US procurement regulations. This regulation states that any compiler being offered for sale to a Federal department must have a current validation certificate.

The validation is carried out at one of four levels so that any compiler claiming to support ANSI standard Cobol should be able to be validated successfully. The tests involve running a series of short programs and checking the results. In the US the Validation Summary Report produced as a result of each validation is published.

At the moment the American list of validated Cobol compilers numbers about 65 and these range from the largest mainframes to small software houses. Sadly, only one British company, Micro Focus appears on this list. However, it has two of its products validated error-free, one of them validated to the highest level.

Companies in the US offer their product for testing for a number of reasons. The main one is to meet the procurement regulations.

The situation in Britain is very different from in the US. A Cobol Validation Centre is being set up by the National Computing Centre with the Department of Industry

Vony Gwillim

DOWNTIME

Coffee break for the probing hacks

ONE of the problems of covering the wacky world of computers is the sometimes unavoidable invitation to a "Vitaly Important Event." VIPs usually involve a collection of employees of some nondescript company (both men and the dog usually) enthusiastically demonstrating an unoriginal product to the assembled hacks.

While it must be admitted that the wine and food are occasionally of an acceptable quality, the actual news content of the events is often sadly lacking. Worst of all are the managing directors of start-up companies who are so convinced of

the breathtaking quality of their products that they spend the entire time demonstrating every single item on the menu in minute detail to every reporter present.

Those seasoned writers who seek information other than that stated in the Press releases, such as "How many have you sold?" and "What's this rumour about you going out of business then?" usually leave these events with a sense of disappointment.

Such an event took place this week. The venue, a wine bar, proved to be rather short of 13 amp power points, so the micro



Can you stomach it on TV?

IS nothing sacred? One of the last bastions of Western culture, the American TV cop show, has succumbed to the ravages of the silicon chip. In a recent episode of *Quincy* the mandatory stiff was found to have an EPROM in his stomach.

The EPROM contained vital information about an international spy ring, and the good guys were unable to save the world again until

the same time next week. But how did it get there?

My Hollywood correspondent informs me that in the original draft of the script, the international conspiracy involved none other than a well-known harbinger of horrible hamburgers, which conspired to serve Kentucky fried silicon chips, knowing that no one would be able to differentiate them from the usual offerings.

10 YEARS AGO

FROM COMPUTER WEEKLY OF NOVEMBER 30, 1972: Secretary of State for Trade and Industry, Peter Walker, said Britain's imminent entry to the European Community gave added significance to Computer 72, at Olympia, an exhibition organised by the Business Equipment Trade Association. An £8 million plan for computerisation of Stock Exchange dealings, was approved in principle by the Stock Exchange Council.

Liveware File
by Don



ONE of my associates was performing his sacred duty on my good self in the course of a merry jest, my fellow writer replied in the negative.

"Oh that's a shame," continued the mystery man "I just wanted to tell him how much I enjoy his work."

Smiling his best Compec smile my peer enquired whether he could be of assistance.

"Yes," stated the man of mystery, "I had here today."

Fearful in case this person should prove to be an irate malcon-

No need for anonymity

tent, unintentionally libelled by a mystery jest, my fellow writer replied in the negative.

"Oh that's a shame," continued the mystery man "I just wanted to tell him how much I enjoy his work."

Modesty forbade my leaping out from the cupboard where I was cravenly cowering, to receive further accolades.

Getting 'em young

I WAS surprised to see a number of schoolboys in Compec. Perhaps it is a good sign for the future that they have scripted and saved to afford the £3 entrance charge. On the other hand, could it be that they received complimentary tickets from the companies whose software they are writing?

SHOCK HORROR FOR THE ARABS

BRING part of a large publishing concern such as IPC together and elicits interesting little facts.

Did you know, for instance, that IPC publishes those dinky little wallcharts which tell you what to do should one of your workers fall victim to an electric shock?

An order for 25 of these we recently received from the electrical contractors to the new prime at Al Ain in the United Arab Emirates - for installation, no doubt, rates - for insulation, no doubt, in the room housing the electric chair.

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1984 and all that...

THIS week's example of the strange things people say about computers was sent in by G. Astic, of Deal, Kent, who wins £1. At the moment, the name to paste in your hat for system software - also known as the operating system - on 8-bit machines is "CP/M" (Don't ask what the letters mean; no one knows).

© CP/M stands for Control Program for Microcomputers

PROFILE

He told the boss: 'In a year I'll be your boss' - and he was!

DAVID JONES' boss was puzzled. He had just told Jones that the job he and a work colleague were competing for, had gone to his colleague.

Yet Jones appeared to be quite unflustered - in fact he had just the hint of a smirk on his face.

"You're taking the news somewhat calmly," said Jones' boss.

Jones replied with a smile: "Never mind. In one year's time, I will be your boss."

It proved to be prophetic.

Jones is an uncommon, though by no means rare breed of computer industry executive, having come up the ranks through the accounting route, in an industry where sales and marketing men typically rule the roost.

At 30, Jones is now managing

director of the computer services offshoot of the £2.5 billion S & W Berisford commodities group. His career started at Bowmaker which he joined at the age of 22 as a project accountant when VAT was being introduced, after graduating from Middlesex Polytechnic with a BA Honours degree in business.

Then came the move into contract leasing, and Bowmaker gave Jones the job of getting a company established. His VAT experience had provided him with the necessary computer knowledge, and he was responsible for specifying the machines.

A promotion to assistant accountant soon followed and Jones became responsible for all accounting functions of eight leasing companies in England and Northern Ireland. He also had an interest in public speaking and took part-time lecturing at the Dorset Institute of Higher Education in Bournemouth.

He was 23 at the time. "I was younger than most of my students," he recalls. "I tried to think of a way of building up their interest, which is not easy when you realise that most of them would rather be at home watching the television."

"I talked of the PR nature of accounts, how companies dress them up and why."

Jones says he achieved a 65% pass rate from about 80 chartered accountancy students. He was then asked by the Bowring insurance group to talk about discounted cash flow in leasing services, with the result that the financial director there offered him a job as systems accountant for an insurance subsidiary.

The company was using a Honeywell batch accounting system without providing for real insurance routines, so decided to get Jones in to specify the system based on an IBM 370/145 online environment.

"We got a line into IBM within six months and were first on the market with the system."

The company was employing 190 bookkeepers and my job was to review the situation and to introduce a strategy. The plan was that the staff would all stay but use terminals, particularly as we were two years behind in our accounts reconciliation," Jones explained.

An IBM 3033 mainframe was eventually brought in to drive 80 terminals under IBM's CICS.

The IBM connection paid off.

When he was 28, Jones was introduced to Nolan Norton, a US

based firm of management consultants. The day he got the job he sat in a library looking through The Times Top 1000 companies with a handful of 5p coins in his pocket to use in a photocopy.

The job took him to fitting places including an office in Northern Borneo guarded by a Gurkha regiment, when an IBM 3033 was installed alongside a distorted Digital Equipment and Hewlett-Packard microcomputer.

Another client was the S & W Berisford commodities empire. Nolan Norton was proposing a group computerisation project, it followed that Berisford needed someone on the inside to guide developments. The newly-formed Berisford Information Technology company had to conform to the parent's image of success.

BIT was to operate as a profit centre. Jones attached great psychological significance to this term. "BIT would not succeed if it was a cost centre, or one which incurred a minus burden on the company's finances. We chose our service out to sub-contractors."

The fundamental challenge for Jones is the commodity market. They have to live by their wits, and the very hand-to-mouth nature of their work means that they are not planners. This means that they have to be educated into using computers.

Jones' guiding ideology is this: "Data processing is nothing more than a means of making things happen."

His influence within Berisford is considerable. "Everything which has a plug in the socket is ours," This includes the old machines and the wire service, the absence of which would so

paralyse commodity trading.

It is clear that all BMMG members should as of right be on CCTA's approved list make naive assumptions about "British is Best". It may appeal to Thatcher's Fortress Britain mentality, but it will not appeal to her support of free trade and "let the fittest survive."

There is an urgent need for the government to change its procurement policy. If, as BMMG says, UK microcomputer products are equal to or surpass the foreign competition, they should start as favourites in any governmental buying decisions.

But if, as the BMMG also says, the market for microcomputers is expanding "almost exponentially", with 1983 UK sales beyond the one million mark, it would not seem that the UK microcomputer industry qualifies as the kind of lame duck which usually makes a case for protectionism.

The BMMG wishes to exclude only US and Japanese micros, but how are they defined? Apple, Tandy, and Commodore hold almost 75% of the UK small machine market, but all three also manufacture within the EEC.

Clive Sinclair, one of the BMMG members who has distanced himself from the protection call, points out that there is a 17% duty on imported electronic components, but only a 6 to 8% levy on fully assembled products. With most UK manufacturers using at least an element of foreign components, a campaign to change a policy which actually encourages imports might be a better avenue for BMMG.

The US and Japanese markets are certainly difficult to penetrate. But companies with the right products and the sense to establish local and professional marketing organisations have not been without their share of success.

If the BMMG believes that government initiatives are necessary to save the UK microcomputer industry, it might do better to support the kind of measures recommended by the Alvey Committee programme for advanced information technology or the European Strategic Programme of Research in Information (Esprit).

The size of the European market is such that a concerted programme by members of the EEC would do much to offset the enormous advantage the Americans have with their own domestic base. Admittedly the problem of breaking down national boundaries is a difficult one, as evidenced by the continuing arguments over EEC agricultural policy.

But collaborative European research on information technology would be a start. As Gaston Thorn, the EEC president, said in London last week, attitudes have changed, and companies are now willing for the first time to meet and discuss strategy.

Protectionism is not the answer, particularly because of the international nature of our industry. We suggest the BMMG thinks again.

THE RECORD being claimed by Wilkinson and Sperry for up time is easily beaten.

Our Tandem T16 was installed mid-November 1980 and switched off over Christmas that year. Since it was switched on again at 9.00 am on Monday, December 29, 1980 it has been up continuously (24 hours per day) without a break (apart from the odd power failure from which recovery is automatic) to the present day.

This gives us continuous operation for 691 days with 100% up time - a total of 16,384 hours.

I am sure that there are other Tandem installations which can claim much better times than this.

W. G. O'MEARA

Systems Planning Manager

Dart Contalinerine

Southampton.

PETER DIGNAM

Management Control Systems, Manchester

London NW2.

With reference to your article on software for the new Statutory Sick Pay legislation, I wish to offer my findings.

There is indeed a "software bandwagon" as you put it; however, as a software consultant, my research reveals that the majority of companies on it are taken just that little too far sometimes.

A member of the journalistic fraternity, keen to get going early on the first day of show, asked British Telecom to give him a 7am call. To his horror it was 8.30 when he emerged from slumber.

The irate journalist was soon on the phone to Buzzy, demanding to know why the call had not materialised.

"We should take the Japanese project seriously, but not literally," he said.

Perhaps the comment is not a compliment after all, since it sums up our cynicism.

The Japanese are merely trying to undermine the present market to the detriment of this country.

But in any case, the comment was curiously cancelled out by the following remark of Phil Drury, US industry commentator: "The only decent software to come out of Japan is the Pac Man video game."

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© CP/M stands for Control Program for Microcomputers

Netw. Scien.

ENTRANCE TO MY OFFICE IS CONTROLLED...

...BY A VOICE RECOGNITION "LOCK"...

...ONLY TROUBLE IS I NEVER GET...

...MORE THAN HALF A WEEK TO WORK IN!

...WHO?...

...NO ENTRY TO COMPUTER PERSONNEL...

...I'M GOING TO SPEND ALL DAY...

...NO ONE KNOWS WHAT'S GOING ON...

TELEMATICS TRIAL



Biarritz was chosen because of its poor television reception.

France leads with first urban optical fibre net

BIARRITZ, the French holiday resort and favourite haunt of European royalty, and the pre-World War Two jet set, will soon have a new claim to fame. Within a few months it will be the scene of the world's first trial of an optical fibre telecommunications network embracing an entire township.

Construction of the main switching centre for the project was recently completed on the site of Biarritz's Victorian railway sta-

tion. It was here, just over a century ago, that Emperor Napoleon III and his wife Empress Eugenie ordered to dismember from the imperial train which brought them from Paris, setting a fashion which turned a storm-swept Atlantic fishing village into an international centre of leisure.

But soon Biarritz will be attracting more purposeful visitors. Engineers and telecoms officials from all over the world will be flocking

there to study at first hand the performance of a new French venture into high technology.

Next summer 1,500 homes will be wired with optical fibre cable, giving telephone subscribers access to a wide range of new services including videophone, cable television, high fidelity stereo and videotex. By 1985 over 5,000 Biarritz citizens are expected to be connected to this versatile new network.

The Biarritz venture is a milestone in the progress of optical fibre as a substitute for copper wire in telecommunications. Copper is costly. It is mined in countries which might be tempted to follow the example of the oil producers and blackmail customers with the threat of economic disaster into paying ever-increasing prices. In contrast, glassfibre is made of optical waveguides. Besides ac-

ting cable element, about five millimetres in diameter, has 10 helical grooves in which the fibre are placed. The cables consist of either 10 or 70 fibres and are protected by a sheath of welded aluminium or steel. The strand diameter for 70 fibre cable is about 20 mm. This allows them to be drawn through conduits with a diameter of 45 mm.

At a later stage, subscribers will be able to use smart cards with microprocessor memories for electronic funds transfer, right in their own sitting rooms.

6

glass's potential for transmission has long been known to scientists. The principle was applied in the 18th century in the optical telegraph. Our ancestors were well aware of the role of light in sending information, using sun, fire and smoke signals to transmit messages.

7

But optical transmission was unreliable. It was beset by the problem of directing and stabilising light beams. This bundle was vaulted with the invention in 1960 of the laser (light amplification by stimulated emission of radiation) which at last brought them under control.

Over the past two decades scientists, after taming those erratic beams of light, have been able to turn sound waves and images into light impulses, transmit them over thin slices of silicon to their destination and then convert them back to their original form with minimal if any loss of quality.

Optical fibres today can provide transmission of vastly superior quality to that of conventional cable. A sheath of fibre can carry 200 times as much traffic as copper wire of the same thickness.

This year France's Ministry of Posts, Telecommunications and Telediffusion (PTT) is placing orders for 3,000 miles of fibre - five times as much as in 1981.

Jacques Dondoux, France's

quiring expertise in producing and applying optical fibre technology, the project is enabling French Telecom and the manufacturers to test terminal components and connectors on an industrial scale.

Biarritz was chosen for the test, in competition with several other cities. Critics of the last government, which took the decision in 1977, claimed that the Basque country resort was selected because its mayor and senator were political supporters of President Giscard d'Estaing.

But the French PTT says the main criterion was the town's proximity to the Pyrenees Mountains, which makes for poor television reception. This made it an ideal site for testing cable TV over optical fibre.

The operation spans the centre of the city and two residential districts. Users will access a switched service for dial-up establishment of point-to-point links between two subscribers. Each link comprises a picture channel of Conflans-Sainte-Honorine and Plivot.

Societe Anonyme de Telecommunications (SAT), one of

the distribution network is reshaped with 70 fibre feeder cables running from the centre. They are connected in the same way as trunk lines at the centres and then divide into 10 fibre distributaries.

The subscriber loops are de-

signed for simplicity and minimum consumption of power.

The emitter consists of a laser diode. At the subscriber end, the transmitter consists of a Light Emitting Diode (LED). The receiver is a PIN diode followed by a trans-impedance amplifier. An AGC operating at the level of 4096 KHz subscriber ensures level control.

The specialised truck line

transmits only one signal. A laser emitter and PDA receiver are used for the TV, videophone and digital links.

Given the quality target, maximum permissible attenuation is about 20 dB. For the high link, transmitter LED and an APD receiver are used. Because of their own specific noise, laser diodes cannot meet the quality target of 75 dB.

French Telecom is now pressing

ahead with the development of

optical fibre.

France's leading telecom manufacturer, told the European Conference on Optical Communications at Cannes in September: "We plan to connect 1,500,000 French homes to our telecom network with optical cable over the next three years."

Switching into a Churchillian

idiom, he added: "But production on an industrial scale is going to mean a lot of blood and tears. I'm speaking technically, of course."

Dondoux predicted that the de-

velopment of France's telecom system would offer a broad gamut of opportunities for optical fibre. One example which he gave is the advent of television satellites providing direct broadcasts. Individual antennae will be costly for householders. Optical fibre links, which will hasten the development of local cable TV, are the obvious answer.

The fast growth of demand for videotex and other telematics services will encourage subscribers to ask for a second domestic telephone line, according to the French PTT. Here again, optical fibre will provide the solution.

French Telecom has already confirmed the performance of this new technology thanks to the first optical fibre link between two Paris telephone exchanges four and a half miles apart, which was cut over in 1980. The cable, which has an outer diameter of 21 millimetres, can carry more than 30,000 telephone lines on a laser-light medium.

The fibre was manufactured by

Lignes Telegraphiques et

Telephoniques (LTT), a member

of France's Thomson-CSF group. LTT is now supplying cable for the Biarritz network.

Each cable element, about five millimetres in diameter, has 10 helical grooves in which the fibre are placed.

The cables consist of either 10 or 70 fibres and are protected by a sheath of welded aluminium or steel.

The strand diameter for 70 fibre cable is about 20 mm.

This allows them to be drawn through conduits with a diameter of 45 mm.

It is worth examining briefly an example which illustrates the difference between conventional AI problem-solving methods and rule-based methods, the chess endgame.

Traditional methods used to

analyze a chess position by

examining all possible moves,

counter moves, etc.

It is this which makes them

so slow and unreliable.

Rule-based systems, on the other

hand, are much faster and more

reliable.

It is this which makes them

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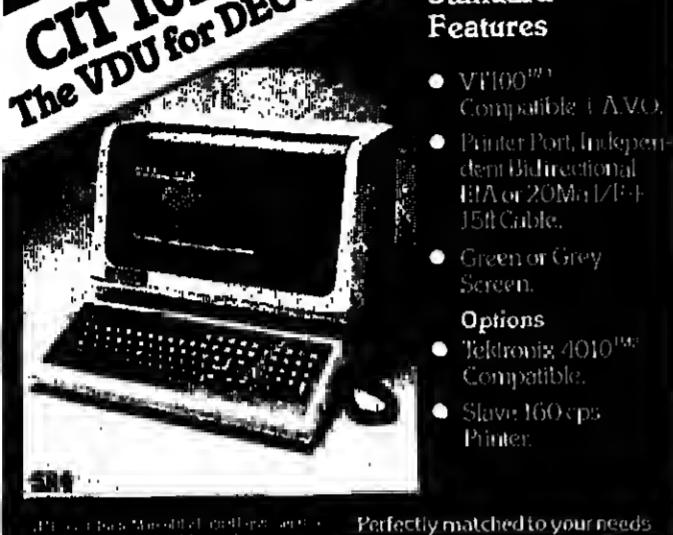
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Computer Weekly
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Consultant Sales
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Throw the weight of your experience into the task of selling for the world's leading systems software developer and vendor.

Offering the most innovative IBM on-line system software, this international organisation is determined to develop further their market penetration which, last year, resulted in a 35% increase in growth.

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Tip the scales in your favour by ringing Gordon Thompson quoting REF: 2255 for further details and an early interview.

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INTERNATIONAL COMPANY

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Our client, who has a Honeywell 6/57 using COBOL and Screenwrite to create and up-date databases, screen enquiry systems and batch transaction processing techniques, requires the following additional personnel.

Project Group Manager

Having full responsibility for projects assigned to the team. The scope runs from initial investigation, through design to final implementation.

Candidates should have a good general education to at least 'A' level standard but a qualification in Programming, Computer Science or Business Studies would be an advantage. 5 years experience of programming commercial systems using COBOL together with 3 years analysis is essential together with experience of staff management.

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Responsibility will be for a section of a project (or a whole project) assigned by the Project Group Manager. The range of work is from initial investigation through design to programming and implementation, with approximately 50% of the time spent on analysis and 50% on programming. Candidates should have a good general education to at least 'A' level standard but a qualification in Programming, Computer Science or Business Studies would be an advantage. Two/three years experience of programming of commercial systems using COBOL, together with one/two years' experience of systems analysis is essential.

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MONTHS	MONTHS	MONTHS
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MONTHS	MONTHS	MONTHS
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MONTHS	MONTHS	MONTHS
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FURTHER INFORMATION: PROGRAMMERS ARE ADVISED TO DESCRIBE THE DEPTH OF THEIR PROGRAMMING EXPERIENCE AND ANALYSTS SHOULD LIST THOSE AREAS OF SYSTEMS ANALYSIS IN WHICH THEY ARE EXPERIENCED I.E. FEASIBILITY STUDIES, SYSTEM DESIGN, PROJECT RESPONSIBILITY, USER INVOLVEMENT, MANAGEMENT EXPERIENCE ETC. IN ADDITION YOU SHOULD MENTION ANY SPECIALIST EXPERIENCE YOU FEEL IS RELEVANT TO THE CURRENT MARKETPLACE.

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In order to ensure that we maintain our reputation for customer satisfaction we are embarking on a country wide expansion of our professional sales force.

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Alternatively send your Curriculum Vitae to Management and Executive Selection, 324 Regent Street, suite 201/208 Albany House, W1R 5AA.



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Racal-Milgo Limited, part of the highly successful Racal Electronics Group, is a world leader in the field of Data Communication and has established an enviable reputation for the technical excellence and high reliability of its products. This range of products has grown rapidly over the past decade to cater for the ever increasing needs of the Data Communications user, and is now probably the most comprehensive in the world.

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Major areas of involvement include Integrated Local Area Network Systems, Modems and Advanced Communications Control and Management Systems.

Responsibilities will extend from feasibility study through development to manufacturing release. This may involve field trials.

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Digital Signal Processing
Analogue Design
Telephony
Microprocessor System Design
Switch Mode Power Supplies

A minimum of 2 years spent in a relevant design environment is essential, if this has been gained in Data Communication so much the better.

In addition to a highly competitive salary, the Company offers over five weeks holiday, membership of a



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If you are interested in the above position, please write or telephone for an application form to:
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Tel: Fleet (0254) 22144

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Our client, one of the major multi-national Computer Manufacturers, is achieving significant business expansion in Australia. Their products, which cover the whole range of information processing equipment from micros to mainframes, peripherals to networks, and industry related 'total solution' products, are at the leading edge of technology. In Australia they are rated by IDC as one of the top three fastest growing companies in the Australian D.P. market place.

The following positions are available as a result of continued expansion, and are all located in the major

capital cities. For top professionals they are long-term career prospects offering extremely competitive salaries. Generous relocation allowances will be offered to suit your individual circumstances, as will active support and co-operation with emigration procedures.

Australia is still a country which offers tremendous opportunity, a superb quality of life for both the single person and the family, and despite talk of recession throughout the world its Computer Industry is buoyant and growing.

**STATE
MARKETING
MANAGERS**
A \$55,000 PACKAGE UPWARDS

These are senior appointments, and suitable candidates must have a strong educational background, and at least 5 years' sales experience in the computer industry of which a significant proportion will have been with a mainframe manufacturer. It is essential that you are currently a proven performer in a Sales or Marketing Management position.

Sales Representatives

A \$45,000 package

Our client has a number of vacancies for Sales Representatives who can demonstrate consistent quota achievement with a mainframe supplier. Specialists in the general commercial and industrial sector, the financial industries, or government would be especially welcome.

On target you should earn in excess of A\$40,000, a car is provided, and there is an excellent incentive for over-achievers. Excellent medical, dental, and pension schemes are available.

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EXPERIENCE

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IBM Communications Coordinator

Rural South West Midlands location
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The Projects Group interacts with customers both internal and external as well as our Systems Support Group and external suppliers. A new opportunity has been created for a personable Communications Project Supervisor to join the Project Group and fulfil this important role.

Candidates should be from either technical support or network operations backgrounds with a strong association with large-scale IBM configurations. Of particular interest to us is an understanding of the practicalities of implementing SNA particularly a knowledge of the IBM host interface in a multi-level computing environment. It is important that applicants have some practical software experience in view of our heavy commitment to providing a comprehensive range of host and terminal software interfaces into the communication networks.

Candidates who are keen to identify an organisation with a totally committed approach to communications networking in both the short term and the long term should telephone our Advising Consultant, Alan Carnell on 021-236 3781 (24 hour answering service) or 021-784 6063 (Evenings and Weekends).

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021-236 3781

NORTH
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Manchester M3 2ER
061-633 0427

BELGIUM
Avenue Louise 327,
Bolte 4, 1050 Brussels
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TELETEX; PACKET SWITCHING; SYSTEM X; COMMON CHANNEL SIGNALLING;
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We can provide excellent housing, educational and social facilities by offering a generous and comprehensive relocation package.

If you would like to help us, help you, to develop some of the world's most advanced communications software systems, then please contact TONY HATHELL or SUZY JACKSON for further details and an early interview.



Computer Search
01-404 0152



100 Norwich House, 13 Southampton Place, London WC1A 2AJ, England

OPERATIONS

IBM DOS/VSE CH.OP

£20,000
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B.6B52

IBM OS/VS1 S/LEADER

£3,200
Sub. Mortgage, Free Life Assurance and BUPA cover are part of the package offered by this well-established financial organisation. Candidate must have a minimum of three years' experience, preferably with some VM experience and possess leadership qualities.

B.6761

PDP 11/70 SNR OPS

£25,000
Career opportunities offered by well-established progressive organisation based in London. Our client requires ambitious, competent operators with a minimum of two years' RSTS/E experience for demanding position with excellent prospects and worthwhile company benefits.

B.6B46

VAX 11/780 OPS

£27,000
The ultra-modern professional company based within easy reach of London Bridge, requires a first-class operator with a minimum of two years' VMS experience. Must have ability to take on greater responsibilities as there are rapid promotional prospects. Good working conditions and generous fringe benefits.

B.6B08

Senior Support Staff

We would like to discuss a range of interesting opportunities for Senior Support Staff, including Managers. You must have substantial experience in pre and post sales support functions with a computer supplier. These are senior appointments and we require advanced skills in Project Management and implementation in the following areas.

- ★ Commercial and Industrial
- ★ Financial

You must have well developed interpersonal skills as these positions require substantial client contact. Salary packages in the range of £25,000 to £35,000 should be taken as a guide, and a company car will be provided. Excellent medical, dental and pension schemes are available.

S.N.A Specialist

This is an exceptional opportunity for an SNA/X25 Network Specialist. This role requires a combination of strong technical skills, maturity and the ability to liaise with clients and marketing personnel. You will be responsible for the successful interfacing of networks between our clients' equipment and mainframes based on IBM style protocols. Implementation planning, pre-sales support, and product evaluation will all be key activities. This is a senior position and the salary is negotiable, but a figure around £35,000 per annum plus car should be taken as a guide. Excellent medical, dental and pension schemes are available. Please complete the coupon and send a brief c.v. to John Goldsmith.

To £35,000

- ★ Government
- ★ Systems and Network Architectures

You must have well developed interpersonal skills as these positions require substantial client contact. Salary packages in the range of £25,000 to £35,000 should be taken as a guide, and a company car will be provided. Excellent medical, dental and pension schemes are available.

Salary negotiable

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£35,000

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SYSTEMS AND PROGRAMMING

PROGRAMMERS & ANALYST/PROGRAMMERS

LONDON IBM COBOL to £12,000

IMPRESSIVE OPPORTUNITIES! TRAINING! EXC. SALARY + PERKS!

Our client, an International company with offices throughout Europe and the States, are currently expanding and heavily involved in the field of International Finance and is wholly owned by a large British institution. Applicants should be educated to degree level, and have a minimum of two years' experience in a commercial environment on any large-scale mainframe, such as Wang, DEC, etc. Candidates must be presentable and articulate and preference will be given to people who have had exposure to structured programming and assembly techniques. Together with an excellent salary this company offers LVA, reduced rate loans and first class opportunities for promotion.

COMPUTER WEEKLY December 2 1982 33

ANALYST/PROGRAMMERS

CITY COBOL £10,000+ PA

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J.6882

ANALYST/PROGRAMMER

LONDON IBM, COBOL to £11,000

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The position offers a wide variety of work, working in IBM hardware with mainframe and micros. Ideal applicants will have 2 years IBM Cobol, lots of TRAINING will be given in CICS, Database, Minitab and Micros. Ring NOW for further details.

S.6773

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POSITION

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INTERVIEW

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Salary Scale: £9,000 to £7,017 plus £1,087 London Weighting.
Application forms are available from and should be returned to the college, within 14 days of the appearance of this advertisement. ILEA is an equal opportunities employer.

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The post will be available from 1 January 1983.
Salary Scale: £6806-£11022, with possibility of increments being allowed for relevant experience.

For further details and application form apply to the Principal, Grantham College for Further Education, Grantham, Lincs. Forms should be returned as soon as possible.

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Contact Amanda Lovell on 01-8368144. Quoting ref. no. 2784.



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A great opportunity for accomplished real-time programmers who would like to lead their own project teams developing advanced hardware and software systems. Three years' experience is required in Assembler or high level language: CORAL, PASCAL or FORTRAN in particular. Additionally, knowledge of communications software, PDP11/RSX-11M systems or INTEL series microprocessors would certainly recommend you for interview for one of these key positions.

SENIOR ENGINEER

In overall charge of a team of engineers already on site, the Senior Engineer will be required to pursue the development of Automatic Control systems. The applicant should be familiar with electro-mechanical development (especially sequential controllers), induction loop control and microprocessor hardware and ideally hold a Degree of HNC in Electronic/Electrical Engineering.

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Reporting to the Head of Department, you will lead a team designing Magnetic Card Transports and Interrogators. The team leader will also be responsible for all aspects of material and technical control of each project, liaising with both Mechanical and Electrical Drawing office, Quality Assurance engineers and Technical Publications. Experience in both analogue and digital design is essential, knowledge of magnetic 'record' and 'read' principles desirable. Ideally applicants should be up to Degree standard in Electronic Engineering with a reasonable understanding of Low Level Languages.

SENIOR ENGINEERS (APPLICATIONS)

Application Engineers, reporting directly to the Principal Engineer, are sought to expand the Magnetic Card Interrogation products department. Candidates should be familiar with Assembly level languages, together with the Intel range of microprocessors, and ideally will have had some supervisory experience at Team Leader level.

All these positions are based in SOUTH HERTS and carry an extensive range of benefits including five weeks' holiday, pension, life assurance, sports and social club and opportunities for overseas travel.

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Real Time Analysts and Senior Analysts North Wiltshire

£9-10.5K.

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Applicants must have a minimum of 3 years' relevant experience and be qualified to a Degree in HND/HNC level.

Good promotional prospects are offered by a company located in a pleasant North Wiltshire town. Re-location assistance is available. Ref. 514

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Vacancies exist for an analyst/programmer and a programmer with a large national food retailing organisation using a Honeywell 64/30 running under GCOS. Other mini computers are also installed. The analyst/programmer will ideally have 3 years' d.p. experience including work on Honeywell GCOS and familiarity with commercial applications, and the programmer should have a minimum of 12 months' experience. Ref. 513

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Candidates should possess at least 1 years programming experience part of which should include some of the following:

COBOL on ICL or IBM hardware, or RPG II/III on IBM System 34/38

As you will be working closely with clients, candidates should possess good communicative skills. At the more senior end of the scale, candidates should possess experience of the design/specification of complex programs. Additional supervisory experience would also be of interest to our clients.

For the ambitious, the company offers an exceptional career opportunity:

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- to develop professional and personal skills and to progress into senior technical or management positions

Benefits include salary and promotion reviews every six months and assistance with relocation expenses where appropriate.

For more details, please telephone Andrew Cousins or write enclosing a full C.V.

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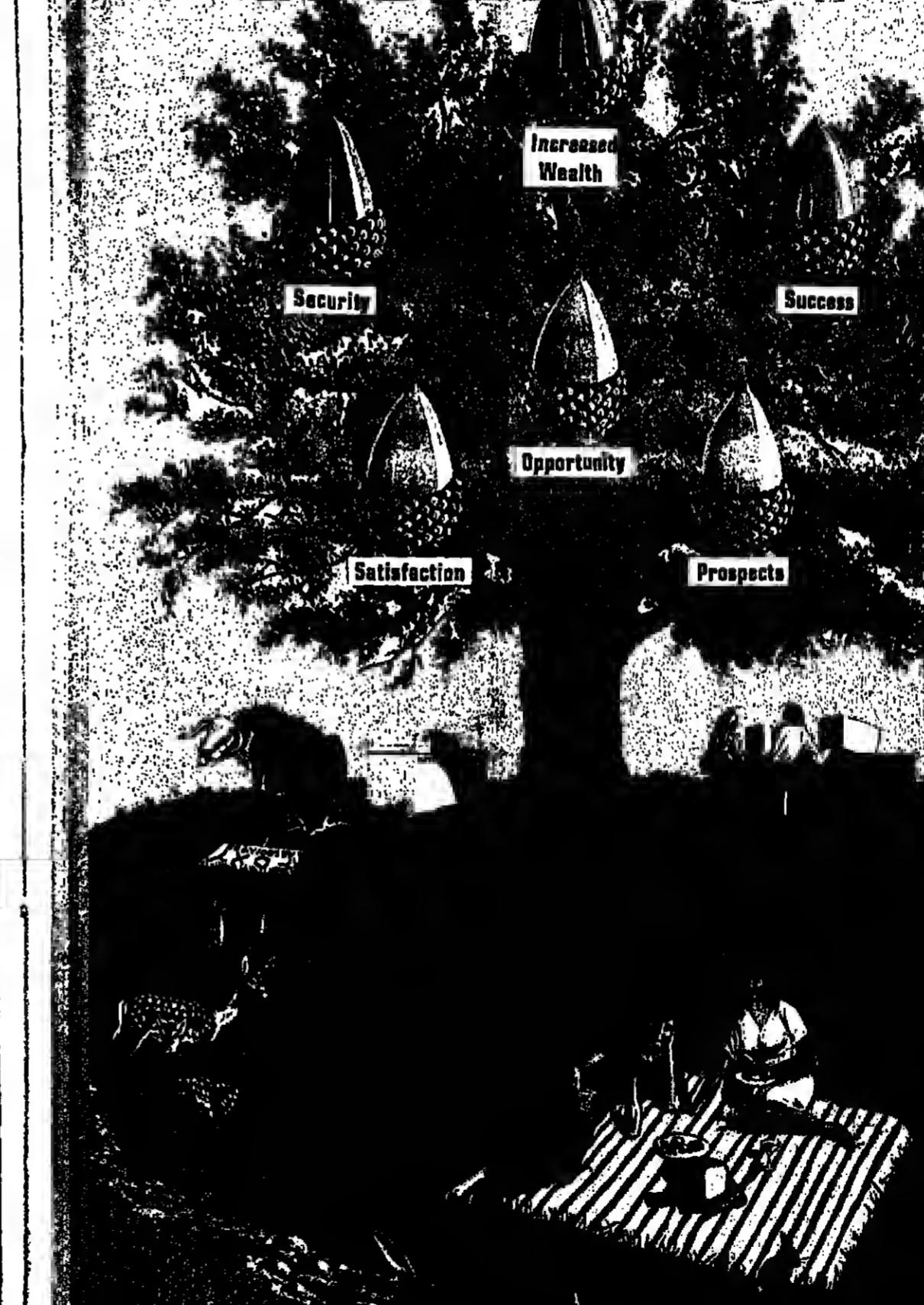
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Prog	Prog	IMS DC	PL1 City
Prog	Prog	IMS DC	PL1 City
Analyst	Analyst	General Insurance	S. East
Analyst	Analyst	Life Insurance	Dorset
Prog+An/Progs	IMS DB/DC	PLI (Jackson)	City
Progs+An/Progs	IMS DB/DC	RPG II	City
An/Progs+Des	IMS DB/DC	COBOL	Herts
Designer	Anal/Prog	DATA DICTIONARY	Herts
Anal/Prog	Anal/Prog	TSO/ISPF	PL1/IMS
Prog	Prog	TSO/ISPF	PL1
Prog/Des	Prog/Des	CICS/DL1	COBOL
Anal/Prog	Anal/Prog	CICS	PL1
Anal/Prog	Anal/Prog	IMS	COBOL
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Analysts	Analysts	Typeetting/Word Processing	London
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DBA	DBA	DL1/IMS	Anywhere
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COMAG

PROGRAMMER/ANALYST

Strong Cobol background plus Database experience

Salary: Circa £10,000 p.a.

Our client is Comag, who are the largest independence magazine distributors in the United Kingdom, with world-wide distribution interests. Their Systems Development Group is based in West Drayton, and a Database system using TOTAL has been developed.

Comag now wish to recruit a programmer/analyst who will:

- ★ have between two and three years' Cobol experience
- ★ have had some exposure to Database
- ★ enjoy the challenge of working in a small team where initiative is welcomed
- ★ be anxious to develop analytical skills

Location: Uxbridge area

Any candidate with experience of TOTAL would have a significant advantage. Future developments are significant. Comag uses management services as an integral part of their company development, and the company is totally dedicated to data processing.

This is a particularly interesting opportunity for somebody who, whilst enjoying the small team environment, will benefit in experience terms from the major computer developments that are taking place. If you feel that you could make a contribution in this environment please send curriculum vitae to John Goldsmith.



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Call Nick Clements on the number below for further details.

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Move down to Essex

If life is looking a bit tough up there, come down to a career in Essex. If you have experience of Assembler, COBOL, TP or DL/1 and a knowledge of IBM mainframes or DEC minis our client, one of the world's leading financial institutions would be interested to speak to you. In the first instance call Andy Beacham on the number below or on 01-223 8507 evenings and weekends.

IBM COBOL PROGS to 11K + benefits

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A large multinational corporation is seeking an COBOL programmer with good knowledge of JCL. You must have 3-4 years IBM experience and a desire to branch into mini's and micros (full training will be given). Honeywell mini experience is advantageous.

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Action Line ring 01-637 9611

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PDP 11

VAX

INTEL 8088

There is also a requirement for junior programmers with about 1 years' experience in some of the foregoing. TM48/4

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Our client is seeking candidates for a technical writer position. Applicants should have a technical background including technical writing. The work involves micro processors, data communications and high speed local area networks. TM48/5

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- Defence Systems

- CORAL

- Meccat

- POP 11

- INTEL 8086

DLM48/7

TECHNICAL WRITERS SCANDINAVIA

Our client, a growing computer manufacturer, is seeking candidates for technical author/technical writers. Candidates should have a technical background including technical writing and must be able to communicate in English both written and verbal. The work involves micro processors, data communications, and local network. OLM48/8

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For a confidential discussion, ring either of the directors, Neville John or Tony Roberts on (0270) 627206 (office), or write with details of your career, Evening numbers NJ (0270) 213118, TR (0270) 624058.



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THE POSITIONS

Systems Specialist (Communications)
To work in a small team providing data communications and networking support with particular

If you would like to discuss these opportunities in more detail please ring Tony Roberts on 0270 627206 during the day or 0270 624058 evenings and weekends, or write enclosing details to the Nantwich address.

responsibility for the HP and DEC system. Responsibilities include:

On-line data communications software design and support.

Network support — to aid high level network troubleshooting in conjunction with other team members.

User support — to act as an authoritative source in data communications matters.

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**Systems Specialist
(Database and Applications Support)**

To be initially involved in a new system on a new VAX 11/780 and 750 configuration (currently being installed), and to work in a Technical Support role alongside the application development team. The application is a corporate chemical structure system with interactive graphical search features to support the Research function.

A primary task will be to identify, evaluate and implement a suitable DBMS for this system and to contribute to the overall system design.

Experience required:
Applicants should have a minimum of five years in computing, three years programming and have database/system design experience ideally gained across more than one computer manufacturer preferably including DEC/VAX.

BENEFITS

In addition to the salary other benefits include up to five weeks holiday, profit sharing and bonus payments, an attractive relocation package and good career prospects.

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Starting salary in the range of
£14,000-£15,000 plus a company car

IBM GSD experience essential

Our client is a major international company based in the London Home Counties. A large IBM user, our client has in addition to substantial mainframe equipment a number of System 34/38 installations in Europe. They are now looking for a Manager who, although based in the United Kingdom, will be responsible for ensuring development and maintenance of systems at these remote locations. The successful applicant will control a small successful group of analysts and programmers and will be expected from time to time to visit European locations. Our client is looking for two important attributes — technical skills and people skills. The successful candidate

Location: London Home Counties

will be expected to deal with many different levels of management and in addition to generating the right atmosphere within his/her own group will also be expected to engender confidence amongst users. Flexibility in many aspects of this job is very important indeed.

The career opportunity is a good one. As previously mentioned our client is a large IBM user and therefore the longer term prospects could be very good indeed. A sensible starting salary is offered plus a company car and other benefits. If you are interested in this opportunity, and feel you have the right kind of experience, please send your curriculum vitae to John Goldsmith.

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You will be involved in:

- ★ The design, development and implementation of complex systems;
- ★ Computer policy planning, equipment selection and installation;
- ★ Feasibility studies and computer efficiency reviews;
- ★ DP organization studies and procedures development.

Ideally you will possess a sound academic background (preferably degree level) and will have gained 2-4 years' experience of Commercial Programming on Mainframes or Mini Computers. Strength of personality and communicative ability will be important factors.

Training the first order — In addition to the Companies own in-depth training in Business and Management methods, considerable use is made of external courses in advanced computer techniques.

Prospects are excellent — successful candidates will be expected to progress rapidly into senior DP consultancy positions, with opportunities to diversify into other fields of business.

OTHER BENEFITS include frequent salary reviews on merit, generous travel and accommodation expenses, subsidised BUPA.

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**Lloyd Chapman
Associates**

125, New Bond Street, London W1Y 0HR 01-499 7761

Experienced Cobol Programmer

Starting Salary: circa £11,000 p.a.

Camberley, Surrey

Our client is GSI, one of the largest and most successful European computer service companies. Their United Kingdom headquarters are in Camberley, Surrey, and they now wish to recruit an experienced COBOL programmer to play a very important part in the future development of their business. Currently GSI are operating an IBM 370/145 under DOS/VS, but this is going to be upgraded early in 1983 to an IBM 4341 using DOS/VSE under VM. They are linked through a European network to two large data centres in France, one of which currently operates an IBM 3081 under MVS/SP and the other an AS 7000 under VM.

Our client would like to meet a thoroughly experienced COBOL programmer who ideally would have a knowledge of Assembler and Data Base, but this

is not an essential requirement. Although IBM experience is preferred, applicants with COBOL experience in other hardware environments could well be serious candidates.

Our client's United Kingdom headquarters are in a very attractive part of southern England, where it is still possible to buy housing at reasonable prices. The position could offer a first-class career opportunity to the right applicant. There are significant plans for expansion in the near future, and this position is considered an important one in that development plan. If you would like to know more about the opportunity offered by GSI and feel that your COBOL experience matches the requirement, please contact John Goldsmith to discuss the matter further in order that an interview can be arranged quickly.



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We have an IBM Series/1 and several DEC PDP-11 computers used for on-line acquisition of clinical data, laboratory automation, medical records and statistical analysis. A number of new on-line applications are being developed.
Applicants (male or female) should have an honours degree in Science, Mathematics or Engineering. Preferably with some programming experience. The salary scale is £9,061-£9,489, with a minimum of £6,598 for a 1st or 2nd class honours degree, including London weighting.
All letters to: Personnel Department, Queen Mary Nurses' Home, 20 Pepe Street, SW1 (Tel: 826 8811 ext 2103). If you wish to send a letter as well supporting your application, please do so. Closing date: 17 December 1982.
Further details about the post from Dr T. D. Preston on 826 8811 ext 2820. (10861)

SALES ACCOUNT DIRECTORS

TO £24,000 GUARANTEED
CAR & BENEFITS

POSITIONS AVAILABLE IN SOUTHERN & NORTHERN
HOME COUNTIES AND IN THE CITY

Our Clients have now built a superb reputation in the distributed data processing and local area network markets. They require several experienced Sales Professionals to work in London and the Home Counties, both to manage portfolios of accounts and to create new business.

We need people with 32 bit mini, mainframe or other established business systems experience and a successful account management and new business sales track record spanning a minimum of five years. The applications sectors are commercial/financial.

For this experience, our Clients are prepared to guarantee up to £2,000 per month for the first six months and there are very real opportunities to earn considerably more.

BOB BOWER will be delighted to take your call in the strictest confidence on 01-533 7141. Reference CW 0212.

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SPECIALIST RECRUITMENT CONSULTANTS

1982
HIGH PERFORMANCE SERVICE!
US Training (Family tool) £14,500 + 2 Lit. Car +

A revolutionary concept in high performance mini design has led to an exponential growth curve for this American manufacturer. With this exciting range of equipment and the opening of new offices (London and Provinces). Our client is able to offer unrivaled career prospects to ambitious field engineers seeking a real challenge and total system involvement.

Starting salary will be £29,500 + O/T + 2 Lit. Car - BUPA + on-call pension + training in USA (Family tool). If you are looking for a chance of something big call KEITH WALLIS now at:

ALTRONICS PEOPLE
01-543 4844 (Agy.)

CONTRACTORS

JOIN A WINNING TEAM

IBM

IBM MVS IMS DB/GC COBOL PROGRAMMERS
IBM MVS IMS DB/DC DATA DICTIONARY SENIOR
ANALYST/PROGRAMMERS

IBM OS/DOS PL/I IMS DB/DC PROGRAMMERS

IBM OS COBOL CICS QL/1 (JANUARY) PROGRAMMERS

ICL

ICL ORS20 CICS COBOL PROGRAMMERS

ICL 2900 VME/B COBOL ANALYST/PROGRAMMERS

ICL SYSTEM 10/25 ASSEMBLER (OR COBOL) ANALYST/PROGRAMMERS

2900 DME GEORGE 2 RANGE COBOL TPS TOTAL (FBI) PROGRAMMERS

ICL 2900 VME/B IDMSX TPMS DESIGNER/ANALYST

ICL VME/B IOMS TPMS ANALYST/PROGRAMMER

OTHERS

ANY MINI + PROCESS CONTROL (HERTS) ANALYST/PROGRAMMERS

PRIME FORTRAN (JANUARY CENTRAL LONDON) ANALYST/PROGRAMMERS

FORTRAN + GRAPHICS ANALYST/PROGRAMMERS

FORTRAN + GRAPHICS (ABERDEEN JAN/FEB) ANALYST/PROGRAMMERS

GRAPHICS EXPERT WITH INTERGRAPH (ABERDEEN) ANALYST/PROGRAMMERS

HP 1000 ASSEMBLER + FORTRAN SYSTEMS ENGINEER

BURROUGHS 8800 COBOL 8000 2 GEMOS PROGRAMMERS

POP 11/76 BASIC + 2 (JAN) PROGRAMMERS

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FORTRAN + GRAPHICS ANALYSTS/PROGRAMMERS

A Computer Search contract starts by calling Kelly on Hemel Hempstead (0442) 40761 (24 hour answer service)

Computer Search (Contracts) Ltd.,

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Computer Search Contracts

(0442) 40761

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ALTRONICS PEOPLE

01-543 4844 (Agy.)

Applied Communications Inc., a US Corporation with offices located in key centres in the USA is a major Systems House specialising in on-line systems on Tandem Non-Stop Computers. ACI has installed more than fifty sophisticated switched networks, a significant proportion of which are in the Financial sector. The UK subsidiary is expanding both its Products and Systems Divisions. The Products Division specialises in the definition, specification of requirements, system configuration, testing, installation and subsequent support of comprehensive software packages aimed at the Banking, Financial and POS markets. The Systems Division develops customised solutions to client requirements from Project initiation through to Customer acceptance. These, too, are Tandem Non-Stop Implementations.

ACI has the following specific vacancies:

Senior Analysts

£12000 - £14000

We require Senior Analysts to work on the implementation of large Transaction Authorization systems based on a comprehensive and sophisticated package operating on Tandem equipment. Applications are in Electronic Funds Transfer, Point of Sale and Retail Distribution Networks. Assignments include Analysis and Specification of Requirements, System Configuration, File Specification and Custom Application Program Specification. Involvement is from project initiation through to Installation and testing. In some cases, a Team Leader role will be undertaken. Applicants should have approximately 6 years Programming/Analysis experience with specific skills acquired in at least one of the following:

Interactive Transaction Processing
Database Design
Communications Network Analysis
Systems Programming
Finance and Banking Applications

All appointments may involve travel to client sites which are usually within the local area, although flexibility to work on specific assignments for extended periods away from home will be an important consideration. This could involve travel to the US or other worldwide destinations. Full training on Tandem Systems will be provided and there will be opportunities to work in other areas of the Company.

To discuss your future career with Applied Communications, telephone Alan Moxon or Chris Peat on 01-423 2131. During evenings or weekends telephone Alan Moxon, Whipsnade (0582) 873106 or Chris Peat, Walton-on-Thames (0932) 228444 or write to:

Manager, Customer Services, Applied Communications Ltd.
1-9 Peterborough Road, Hemel Hempstead, Hertfordshire HP1 1AZ.

Systems Programmers

£11000 - £13000

These appointments are for Programming staff to work on Custom developed software systems implemented on Tandem equipment. Typical applications are Hotel Reservations Systems, Electronic Funds Transfer Systems, Integrated Message Switches, Videotex services. Our Systems Programmers are involved in System Specification, Program Design and Implementation, System Integration, Testing and Customer Installation.

Minimum qualifications are 4 years Systems programming experience in at least one of the following areas:

Communications Software

X.25 Implementations

Operating Systems development

Message switching applications

1982

SALES BIT

Quality of Management — 33

A successful meeting is never boring

SALES meetings must be entertaining in order to have a chance of success; and success can only be measured in the subsequent increase in confidence and enthusiasm of the participants.

Perhaps it would be a good idea to qualify what I mean by entertaining. First and foremost, sales meetings should never be boring and that in turn means they should not be entirely predictable or unvarying in pace; they should involve all the participants and stimulate their interest by continually changing means.

Carefully, every sales meeting unavoidably includes familiar topics such as sales performance to date, items from previous meetings (yes, do have minutes), that way promises made and actions agreed upon are less likely to be overlooked; competitive reports, and so on; but such dialogue is quite acceptable if it takes the form of supporting programme around an interesting main feature.

There are many sources and varieties of subjects which can be introduced to form the nucleus of a sales meeting that can both involve the participants and stimulate their interest.

Here are a few ideas for your consideration:

Whenever one of your sales people wins a really significant order it can be entertaining and educational to get the sales team supporting departments involved in their part, and so on. Few companies have the resources to provide films specifically designed for their own use or related to their products, in their marketplace against their competitors. However, there are companies that can provide a variety of films covering most selling situations. If the sales manager can identify one or more areas of selling technique where he believes a significant proportion of his sales force could do with help, there are likely to be films available which highlight the problem and propose a solution, albeit in a general context.

Learning how to approach the situation from first contact to close, spotting the problems and opportunities to be experienced along the way, getting to know how the company's supporting departments played their part, and so on, can be extremely informative to all concerned and many can gain selling ideas that will benefit them on future occasions.

Added to which, most sales people enjoy the kudos of being publicly acknowledged as a winner and gain real pleasure from telling their colleagues "how it is done".

From the participants' point of view it has the added value of laying down the challenge of whether or not they will also be up there showing that they can be a winner too.

This is where the benefit is really achieved. If you want to create a questionnaire to test the awareness of the participants that might not be a bad idea, particularly if you concentrate on the primary areas of disagreement.

Alan Williams

PUZZLE ANSWER

1982

MANAGEMENT SERVICES CONTROLLER

As one of Britain's leading travel companies, we are looking for a senior Management Services professional to manage and control the travel needs of our organisation. Responsibilities of the post include the management of the department, travel contracting and telecommunications system and the development and implementation of new systems. The post requires an ambitious person with experience in the design, implementation and operation of a real time reservations system. A knowledge of programming and systems analysis techniques would also be an advantage. Those in London the selected candidate will be offered a package including a car and will have freedom to control most aspects of systems development. He will also be expected to contribute constructively to company policy.

Salary is negotiable according to ability and experience but will reflect the responsibilities and the need to attract the right person. Benefits include: BUPA, Company Car, Company Pension Scheme and generous family concessions on company-subsidised holidays.

Post is in confidence in full CIVIL

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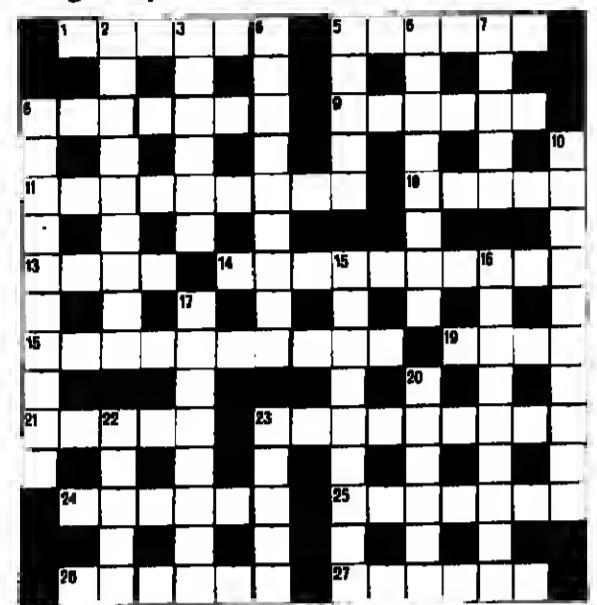
1982

1982

CROSSWORD**Prize Crossword No 35**

Compiled by Alec Robins

A prize of £10 will be awarded for the first correct entry completed. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey, SM2 5AS, by first post Friday, December 10. Please use a ballpoint to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name..... (Miss, Mrs, Ms, Mr)

Address.....

Telephone.....

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed Date

ACROSS
 1. Fearful, a Father needs assistance (6)
 5. Doctor attending wretched ship is spiritless (6)
 8. A stitcher and linendraper, very versatile (7-6)
 11. To become disengaged, fall in love? (4,5)
 12. The girl to pester endlessly on the way back (5)
 13. Aunie ruler makes appearance in gymkhana (4)
 14. Gets rid of nudes, birds misbehaving (10)
 18. Going on strike, end courting? (7,3)
 19. The top one in a thousand? Just the opposite! (4)
 21. Archaeologists finally obtaining tough fragment of pottery (5)
 23. Toss with ship around start of day, utterly gloomy (5-4)
 24. A child's curse, Freddo, tucking into sharp fruit concoction (6,7)
 26. Cootie nursing a fibrous tissue (6)

DOWN
 2. Anticipate collapse of store in the autumn (9)
 3. Come down in flames (6)
 4. Dig garden that's grown wild - it's humiliating (9)
 5. Assembled to embrace an artist (5)
 6. Defendant's answer certain to give delight (8)
 7. Rise aloft, circling Lake of the Sun (5)
 8. Are really fond of sage, and set in the same way (2,8)
 10. An official of the House once at the Dispatch-Box? (3,7)
 15. Liberal in giving oil, but fuc, in a way (9)
 16. Oriental singer going about the North in a spellbinder (9)
 17. Exposed to buffeting, gain land, ultimately, and pull up (8)
 20. Give a song about Henry having a fling (6)
 22. Dad lifted one quickly (5)
 23. Suffering, when about fifty, is easy to see (5)

RULES AND CONDITIONS

1. Each competitor may submit no more than one entry.
 2. The competition is open to all readers of Computer Weekly with the exception of the staff of IPC Business Press Ltd, any printers employed by them or the near relatives of any such staff.
 3. The solution of each puzzle will normally be published in the issue three weeks after the puzzle has been published.
 4. Winners will receive their prizes during the month following the competition.
 5. The decision of the editor on the interpretation of the rules and conditions and on all matters shall be final. No correspondence will be entered into.

MICRO COMPUTER ENGINEERS

2 Neg plus company car/Surrey

Due to rapid expansion we are seeking a micro-computer engineer. The successful applicant will have appropriate experience in the maintenance and repair of computer equipment. He/she will have a positive personality and be able to operate effectively with minimal supervision.

A good salary will be commensurate with experience.

For further details please contact

Miss S. Galbraith
 Ferguson Computers Ltd
 4 Pyrford Road
 West Byfleet
 Surrey
 Tel: (0932) 45330

NEW HONEYWELL IDS/TDS OPPORTUNITY

Roedline UK Limited, Britain's largest road-based parcels carrier, currently involved in a redesign of information systems at their central London office, require a

PROGRAMMER
£7,300 to £9,000
(depending on experience)

If you have 1-2 years' Level 64 or 66 experience, joining Roedline's DP team offers a quick career move into a high level of responsibility in a small project team environment. You will be working with TDS and IDS with opportunity to develop your existing skills in both, and training will be provided if required.

Useful fringe benefits of a large company apply including good contributory Pension Scheme, 6 weeks holiday and excellent career prospects.

If you like the idea of a new challenge with good rewards apply in writing with full personnel and career details to G. E. Jenkins, Director of Personnel, Roedline UK Limited, The Merton Centre, 45 St Peter's Street, Bedford MK40 2UB.



roadline

SALES EXECUTIVES**SALES EXECUTIVE - DG MINIS**

Young Aggressive Sales Executive with good track record to sell DG Minis Southern England based Southampton. High Salary neg. Car to 25K.

SALES EXECUTIVES - MICROS

To sell Apples, Osborne, Xerox systems to large organisations on West London territory, Based Hounslow. Basic £2k. Car £17k.

SALES EXECUTIVES - SUPER MICROS

To sell Super Micro Networks. Based in London. Basic to £10k. Guarantee. Car or allowance.

DEALER MANAGER - OEM - MICROS

Experienced Micro Sales Executive to handle a dealer network Northern Home Counties/Midlands. BK Basic neg. Car - 18K.

SALES EXECUTIVES - IBM PC, etc

To sell IBM PC systems, plus Osborne, Sirius, Victor 9000. London/Home Counties. Quick management opportunity. Excellent package.

Telephone for an appointment

SDS CONSULTANTS

COMPUTER PERSONNEL CONSULTANTS
AFTER 7.30 p.m. & WEEKENDS 0444 458804

150 Regent Street
London W1R 5FA
Tel: 01-439 8288

(1873)

Learn about IMAGE PROCESSING**IF YOU KNOW ABOUT BIBLIOGRAPHIC DATA ORDER PROCESSING & ACCOUNTING MICROPROCESSORS COMMUNICATIONS NETWORKS**

If you know about all these already please contact us immediately

ADONIS wishes to recruit a small team of experienced staff to support both database creation and sales to output centres. Applications are invited for the above post in the Borough Treasurer's Department from persons with at least two years' experience in computer operating. A two-shift system is in operation covering the period 7 a.m. to 9 p.m. Monday to Friday.

The installation comprises a 512K Univac 80/30 using a 68020 operating system with a communications network and key to diskette data preparation. Univac experience, while not essential, would be an added advantage.

Good conditions of service apply and include a shift working supplement, 20 days annual leave, car loan facilities and a pleasant working environment with staff canteen.

For further information write to: Dr. G. A. Somerfield
ADONIS PROJECT MANAGER
PO BOX 1128
1000 BC AMSTERDAM
THE NETHERLANDS

Application forms and job description available from the Personnel Officer, Council Offices, Farnborough Road, Farnborough (Tel: Farnborough 616222, Ext. 211), to be returned by 10th December, 1982.

(1873)

**Sevenoaks District Council
SENIOR ANALYST/PROGRAMMER**

Salary Scale £9,675 - £10,734 inclusive

The Council runs a 256K CMC Reality system, currently with 128 meg. of disk, and is looking for a person with proven experience in a senior analyst/programming role in either the public or private sector.

The post holder will be required to control the hardware, software and staff resources available to achieve the transfer of all the Council's financial systems from an ICL mainframe to the CMC mini, and to investigate, plan and implement other systems as required. He/she must have experience of implementing at least one major system, and show ability to communicate with staff at all levels.

Generous relocation expenses are available in approved cases, covering removal, legal and associated costs.

Application Forms and Job Description can be obtained from the Personnel Section, Council Offices, Argyle Road, Sevenoaks, Kent, TN13 1HG (Tel: Sevenoaks 459711 Ext. 230).

Closing date: 17 DECEMBER, 1982.

**RANKING
ANALYST/PROGRAMMER**
CIRCA £10,000

An International Bank would like to meet an Analyst/Programmer who has previously worked with IBM 34, preferably in a Bank. This position will also require the willingness to train on DEC PDP 11 and learn BASIC.

For more information please contact: Beverly Collins on 01-236 7981.

DAVID GROVE
ASSOCIATES

60 GRESHAM

LONDON EC2V 6AX

(1873)

Two Cobol programmers are required to join the small systems division of BIS Software Limited. You will be involved in the specification and writing of financial applications programme using advanced 16-bit micros, and will have the opportunity to become involved in the Unix operating system and to learn "C".

Minimum requirements are for 2 years Cobol programming in a commercial environment. A knowledge of Unix and "C" would be helpful, but not essential. Excellent career development opportunities exist in the company which has won two Queen's Awards for Export Achievement and has offices in 10 countries throughout the world.

These positions are London based, but opportunities for interesting overseas travel may arise if required.

Please apply to: Trisha Robinson, Personnel Officer, at the address below.

BIS Software Limited
York House,
199 Westminster Bridge Road,
London SE1 7UT
Telephone 01-928 3551

(1873)

BIS SOFTWARE

FIELD ENGINEERS - London + Home Counties**£10.5K + CAR****MANAGEMENT & EXECUTIVE SELECTION****ENGINEERING ARRAY****FIELD ENGINEERS - London/Kent/Anglia**
From £8.5K-12K + CAR + BENEFITS

Our client's sophisticated family of computer and communications systems place them at the forefront of today's market-place. Continued growth necessitates requirements for further field engineers. The structured service organisation allows entry at several levels through Juniors with recent academic qualifications to senior engineers possessing solid systems level expertise. This is a progressive career opportunity offering ongoing training, the potential to attain technical excellence and a more than generous range of benefits, etc. Ref. CC13

FIELD ENGINEER - Micros London
£12K + CAR

This is a ground floor opportunity for an experienced field engineer to achieve rapid career growth within a developing company. Our client, a manufacturer of a multi-user micro-based business system, has received the enthusiastic approval of the entire business and financial world. Presently they seek a mature individual to build and lead an engineering division in the Southern region. You will require sound technical skills coupled with the enthusiasm and drive to create a cohesive team. Ref. CC14

For an informal discussion ring Chris Bond or Jill Bartlett on 01-637 9611

1840

MANAGEMENT & EXECUTIVE SELECTION

telephone 01-637 9611

A MAJOR BREAKTHROUGH

An Apple demonstrated to Sir Isaac Newton the principles of gravity.

Apple Computers are demonstrating to corporate managers the most exciting concept to emerge in recent times, Personal computing power.

Apple Computers are seeking an individual to join their National Accounts sales development department.

Applicants should have at least five years' experience in the data processing industry. Knowledge of batch and interactive systems is essential, as is knowledge of computer communications, mainframe/minicomputer communications protocols, LANs and private widearea systems. Experience in the software house, systems house, bureau commercial OEM environment would be considered a distinct advantage, in addition to the above.

As a forward thinking, fast growing organisation, we are also looking strategically at our professional manpower requirements which might well include areas such as marketing, hard and software technical support/training and technical/orientated service engineers. Should you be planning your career for the future, you may well be interested in applying for one of these long-range positions.

For further information, please telephone Tony McGrath on 01-637 9611.

apple computer

Suite 201/6 Albany House, 324 Regent Street
London W1R 5AA 01-637 9611

MANAGEMENT & EXECUTIVE SELECTION